ESTABLISHED 1819.

SIXTH SERIES.] AUGUST, 1866. [VOL. I.—NO. 2.

TERMS: $2 A YEAR.

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THE

AMERICAN FARMER.

A

MONTHLY MAGAZINE

OF

AGRICULTURE AND HORTICULTURE.

THE OLDEST AGRICULTURAL PUBLICATION IN THE UNITED STATES.

Has probably a larger COUNTRY *circulation than any publication of any kind South of New York.*

PUBLISHED BY

WORTHINGTON & LEWIS,

OFFICE, No. 52 SOUTH GAY STREET,

(South of Exchange Place and near Postoffice,)

BALTIMORE, MD.

PRINTED BY JAMES YOUNG, No. 114 BALTIMORE STREET.

Office, 71 South street, Baltimore.

CORRESPONDENCE ON PACIFIC GUANO.

We invite attention to the following correspondence from farmers of Maryland, and other States, who have used Pacific Guano.

Their testimony as to its effects is disinterested and reliable, and they are gentlemen well known in their localities; hence, what is here written must be accepted as the result of experience. The reader must be struck with the concurrent testimony of so many parties, extending over so great an extent of country. From this correspondence, it must be conceded that no fact could be more thoroughly attested by human testimony, than that *Soluble Pacific Guano* is the most *effective* and *economical* fertilizer now offered to the farmers of the country.

We ask especial attention to the letter from Mr. Wm. S. Price, of Queen Ann's county, Maryland, in which the economy of *Pacific Guano* is so manifestly exhibited. From the testimony of Mr. Price, it is *shown that* one ton of *Pacific Guano* has the actual value of *one and a half* tons of "genuine Super-Phosphate of Lime, while it sold last season at a price only five dollars in advance, when its actual value exceeds $30 more.

JOHN S. REESE & CO.

KENT ISLAND, Queen Ann's Co, Md., June 14, 1866.

Messrs. John S. Reese & Co., Baltimore, Md.:

Upon your recommendation, I bought from you, last fall, five tons Soluble Pacific Guano at $65 per ton. I bought, also, one-half ton M.. P.. Genuine Super-Phosphate of Lime at $60 per ton, which latter article I had used before with satisfaction, and regarded it the best Super-Phosphate I had used. You assured me that 200 lbs. *Pacific Guano* per acre, would give me as good results as 300 lbs. of M.. P.., and upon your assurance I made a fair test in that proportion. The application of 200 lbs. Pacific cost me $6 50 per acre. The application of 300 lbs. M.. P.. cost me $9 per acre. At no period of the growth of the crop have I been able to discover the least difference in the appearance of the wheat where I applied 300 lbs. M.. P.., costing me $9, and where I applied 200 lbs. Pacific Guano, costing me $6.50. My crop will be ready for harvest in two weeks, and I am now able to give you this information. After this result, it is unnecessary for me to express any further opinion of the value of Pacific Guano. It is certainly the best and most economical fertilizer I have ever used, and I would prefer it to Peruvian Guano at same cost. You have my permission to publish this letter if you so desire.

WM. S. PRICE.

SNOW HILL, June 20, 1866.

Messrs. John S. Reese & Co.:

I used Pacific Guano, side by side with Peruvian, on my wheat, and take great pleasure in informing you of the result. I weighed $140 worth of each, and applied it on two breadths of land, exactly equal in size. The difference is decidedly in favor of the Pacific; the plants are at least *one-third thicker*, the heads larger, and the grain better in quality. I am thoroughly convinced that it is the best and cheapest fertilizer in use, and shall continue to use it in preference to any other now in the market.

Yours, &c., EDWARD A. RICHARDSON.

SNOW HILL, June 20, 1866.

Messrs. John S. Reese & Co.:

I used Pacific Guano, along side of one of the most popular Phosphates now in market, and take great pleasure in informing you of the result. The crops produced from it are far greater in quantity and better in quality, and at a less cost than that of the Phosphates. The wheat, where I used Pacific, started earlier, and was therefore better prepared to stand the winter. I applied fully *one-third more* of the Phosphate than Pacific. I have been in the habit of using Peruvian Guano, but shall use Pacific in future. I consider it equally as cheap, even at the same price. It is certainly far *ahead of any of the Phosphates now in use, at double the present price* per ton, for either wheat or corn. I shall continue to use it myself, and take great pleasure in recommending it to others. Yours, &c, ISAAC CONNOR.

SNOW HILL, June 21, 1866.

Messrs. John S. Reese & Co.:

I tried Pacific Guano, side by side with Reese's Manipulated, in equal quantities, and, to my surprise, the Pacific was far ahead of the Manipulated. I have been in the habit of using Reese's Manipulated Guano on my wheat for several years, and considered it the best fertilizer in the market, but, to my surprise, the wheat, where I used Pacific, is better in quality and greater in quantity. I think the yield will be at least one-third greater. I have every confidence in it, and believe it is the best fertilizer now in use. It is so well known in my neighborhood that it needs no recommendation.

Yours, &c., JNO. B. TIMMONS.

BENNET'S POINT, near Queenstown, Md, June 25th, 1866.

Messrs. John S. Reese & Co., Baltimore:

The *Pacific Guano* I bought of you last fall, I applied on my wheat crop, as follows: On one farm on the first seeding I applied three tons, at the rate of two hundred pounds to the acre, then followed with three tons of *B.. Phosphate*, same quantity per acre. The wheat where I applied the Guano grew off faster and looked better throughout the winter and spring, and is now by far the best wheat I have. I shall commence cutting it to-morrow as it has *ripened* at least *six days* sooner than where I put the *Phosphate*. On my home plantation, I applied three tons of *Phosphate* on the first seeding, and followed with the Guano. The same quantity per acre as above, and the result is the same, and I consider it the *very best* fertilizer I have *ever used*. Thus, you see, I have given it a fair trial, and I shall continue to use it as long as I can have any assurance of its being the same article.

Very respectfully, S. OGLE TILGHMAN.

KENT ISLAND, Md., July 1, 1866.

Messrs. J. S. Reese & Co.:

I received a note from you, asking the result of your Pacific Guano upon my wheat. Last fall I sowed 150 lbs. to the acre, side by side with B..'s Super-Phosphate and T..'s Excelsior, and I find that where I sowed the Pacific Guano the wheat is *higher, thicker and better grain, and ripened about five days sooner than where I sowed the Super-Phosphate or Excelsior.*

Yours respectfully, JAMES RINGGOLD.

PRINCESS ANNE, June 19, 1866.

Messrs. John S. Reese & Co.:

In reply to your request for result of application of Pacific Guano purchased of you. I have to reply, that my manager reports that the corn where the Guano was used is growing finely, notwithstanding the cold and unfavorable season, far outstripping that where ashes and other fertilizers were used.

Very truly yours, ISAAC D. JONES.

SAVAGE, Md., June 27, 1866.

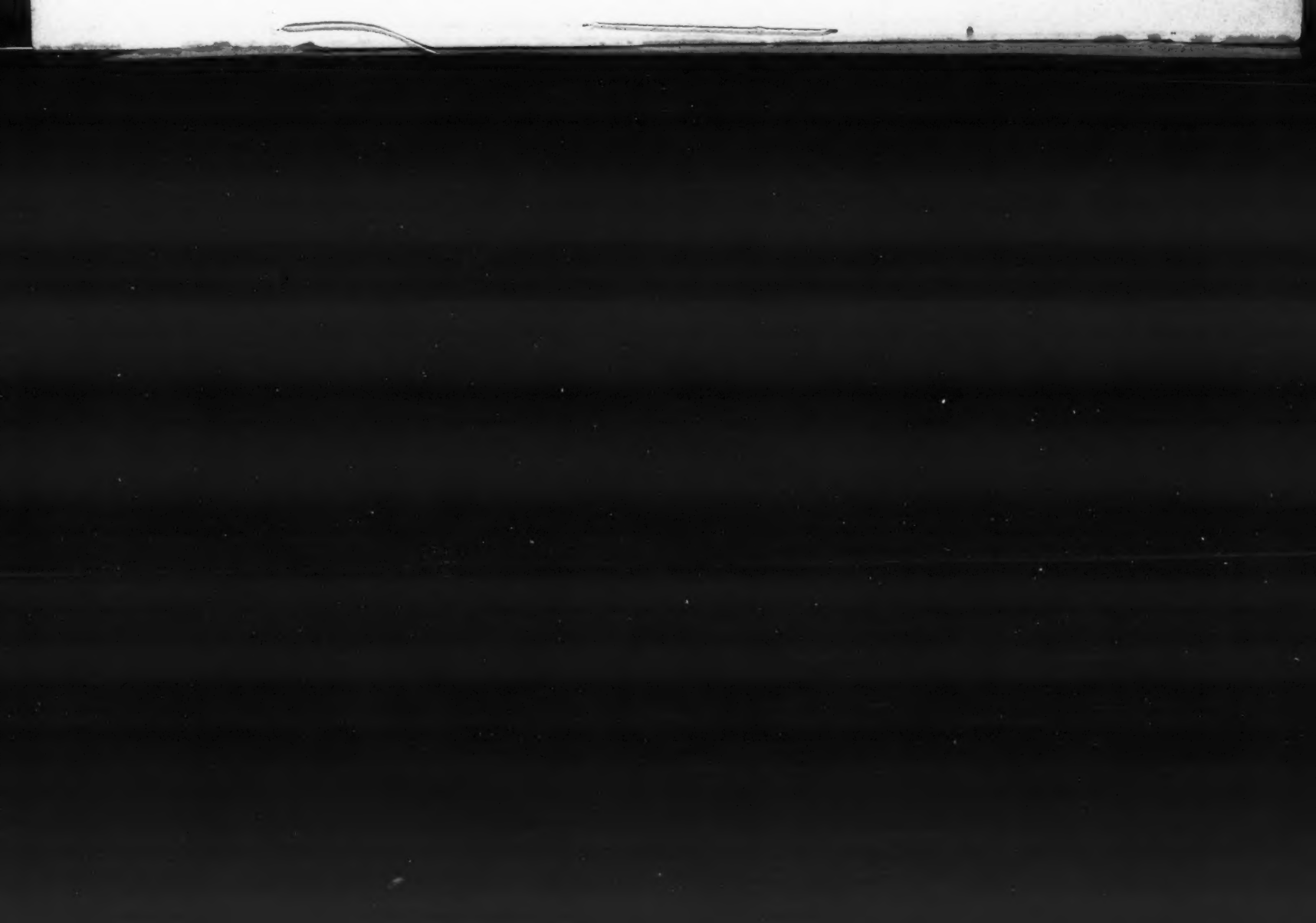
Messrs. John S Reese & Co.:

My preparation for wheat last fall was 3 bus. (180 lbs.) fine bone, 50 lbs. Peruvian Guano, 75 lbs. Pacific Guano, 320 lbs., drilled per acre.

I also drilled as an experiment, by itself, about *two Hundred pounds* Pacific Guano per acre, and it *overtops* the above mixture, evidently showing its power.

I have applied it to corn, as well as potatoes, with marked effect. Very respectfully,

aug WM. BAKER DORSEY.



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THE

AMERICAN FARMER:

DEVOTED TO

Agriculture, Horticulture and Rural Economy.

[ESTABLISHED 1819.]

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

Sixth Series. **BALTIMORE, AUGUST, 1866.** **Vol. I.—No. 2.**

AUGUST.

"While bowers and groves and orchards round me waved,
What verdant banks my winding streamlet laved!
How dear my flow'rets, and my cooling shade!
What fattening flocks along my pasture strayed!
All laughed around me, and my fancy dreams
O'erflowed with fields of corn, and milky streams!
Short-lived chimeras!—impotent and vain!
The broils of state, that o'er my country reign,
Have left me nothing but my sylvan reed.
Adieu, my flocks, my fruits, and flowery mead!"

Farm Work for the Month.

The press of the summer's work will now be abated, and the farmer may afford to give himself, and his laborers, an occasional respite on Saturday, and at midday make the hour of rest somewhat longer. The corn will now be dependent only on the state of the weather, as all will have been done that industry and skill can do in the way of cultivation. The wheat and other grains will have been secured, ready for the threshing machine. The hay will have been made, and put out of harm's way in mow or stack. The care of tobacco, potatoes, turnips, and other such crops, will be light work.

TOBACCO FIELD.

It is an important month to the tobacco crop, and mainly determines its character. In the early stages of its growth, it should be ploughed deeply, to encourage it to strike its roots well into the ground. Otherwise, the hot and dry weather will force it to a rapid, upward growth, and make a light crop. The ploughs and hoes must be kept diligently at work, during the month, until the leaves so interlock, as to make them liable to be broken.

Topping.—This work should be done as the tobacco comes into bloom. Early in the season top down to leaves of six inches in length, and at a later period still lower, to give the upper leaves the chance to ripen before housing. The plant will, usually, be fit for the house about three weeks after topping.

Suckers.—As soon as the plant is topped, suckers will begin to grow from the foot of each leaf.—These consume the juices that would otherwise give weight and body to the leaves, and should be taken out before they make much growth.—Especial care must be taken to destroy them before cutting the plants, as they continue to grow after the tobacco is hung in the house, and, if frozen, will stain and damage the leaves.

Saving Seed.—Some of the most perfect plants must be left, from which seed may be saved.—When the leaves are thoroughly ripe on these plants, they should be stripped off and tied up to cure, while the stalks are still left for the thorough maturing of the seed.

Worms.—All that can be done with the worms, is to watch for them in their first approach, and, as far as possible, destroy them while young. If a great many eggs are observed, and a prospect of a large glut, great diligence should be used in destroying them before they begin to crawl about, when they hide themselves from view. Turkies, though very useful when the plants are comparatively small, cannot be relied upon when they get large, if the worms are numerous.

POTATOES.

Work the late potatoes well until they bloom, and then give a light earthing with the hoe, and leave them thoroughly clean.

[redacted]
Md. Dept.

RUTA BAGA AND OTHER TURNIPS.

Sow ruta bagas at once, if not already done, and white turnips from the 10th to the 20th.—The first in slightly raised drills, two and a half feet apart, with about 300 weight of good superphosphate sowed in the drill. White turnips, sow broad cast.

RYE.

If rye is to be sown, the ground should be got in readiness this month, and everything be prepared to sow not later than the 1st of September. This is not a favorite crop on any ground that will grow a tolerable crop of wheat, but on light soils it may, with a light manuring, prove more profitable. But under almost any circumstances, a small lot should be sown for early green food in the spring. It is fit for cutting two weeks before clover, and no one who puts a proper estimate on green food for stock, in early spring, would be willing to dispense with it. For such a purpose it should be well manured and sowed thickly—say at the rate of two bushels of seed to the acre.

TIMOTHY.

This valuable hay grass is most commonly sown in a rotation with grain, which is the best practice. In that case, it is to be sown whenever the wheat is; but if a lot of ground is to be appropriated exclusively to it, let it be got in thorough readiness, and sown the latter part of this month. If seed enough be put on the ground at that time, there is no reason why a heavy crop should not be cut the first season.

It may be sown as early as the middle of August, and in that case, a crop of white turnips may be sown with it, scattering the seed very thin upon the ground; or mixing a quarter of a pound of turnip seed, with a peck of timothy, before sowing.

If it is the purpose to grow timothy unmixed with other grasses, in a rotation with grain, the proper place for it is with the wheat crop that is sown on a clover fallow; this would of course lengthen the ordinary four-field rotation in proportion to the number of crops of timothy.

CATTLE PENS.

It is a convenient method of manuring the thinner portions of a field, or any part that wants heavy manuring for a special purpose, to make moveable cattle pens, the bottom of which should be covered with coarse litter, of any sort that may be got together. If such pens are moved once a fortnight, much ground may be manured before the time to take them into the yards. It is a favorable season now to gather material of every description that may make manure.

THRESHING GRAIN.

It is always advisable to thresh the grain early, to be in readiness for market, and the most convenient time is generally that between harvest and wheat seeding. Prepare at once, and use every possible precaution against the dangerous accidents that often occur.

PREPARATION FOR WHEAT.

The preparation of the clover field, or the oat stubble, for wheat, should be begun at the earliest possible time, that the condition of the ground will permit. All experienced wheat growers are aware of the advantage of early ploughing; and the uncertainty of the state of the weather allowing it, at this season, makes it especially incumbent to be prepared for the first opportunity to do so. If well turned now, a superficial working at seed time will be all that is needed to put into the best condition. Then the necessity for early seeding becomes yearly more apparent, and some good varieties of red wheat admit of sowing the 1st of September.

There need be no fear of making this first ploughing as deep as three good horses will turn it, unless there be good reason to suspect some poisonous ingredient in the subsoil, which should be turned up, very cautiously, late in the fall.—There is seldom any reason for apprehension on this point.

The Vegetable Garden.

Prepared for The American Farmer, by DANIEL BARKER, Maryland Agricultural College.

AUGUST.

BEANS.

Early Six Weeks and Valentine, may still be sown during the first two weeks of the month, being careful to select a piece of ground which has received a liberal coating of manure, and well spaded, or deeply ploughed. Late beans, upon poor, thin soil, should the fall be dry, will be very stringy.

CUCUMBERS AND MELONS

Frequently suffer from the effects of drought, at this season of the year. A surface dressing of half rotted manure will benefit them, and be the means of prolonging their bearing until frost destroys them.

CELERY.

The early planted will now require earthing up about every ten days, being careful not to add too much earth at a time, as by so doing it is likely to get into the heart of the plant, and cause it to rot.

LETTUCE,

For a fall crop, may be sown about the middle of the month upon a piece of well enriched ground. The *true* Early Paris Silesian* is the best kind, all things considered, we have ever cultivated. Out of some twelve different kinds cultivated here this season, we have nothing to equal the above.

SPINACH,

To come into use before winter, may be sown about the end of the month. Sow in drills about two feet apart, and work well with the hand, or horse, cultivator, as soon as the plants are well above ground.

WEEDS.

Keep them from every part of the garden, as they are great robbers, and not to be trusted,—the seeds from which, if allowed to mature and fall upon the ground, will cause hard fighting hereafter. Fill every vacant place in the garden, from which early peas, potatoes, &c., &c., have been taken, with cabbage, turnip, spinach, &c. Never allow any land to lie vacant during the growing season. Continue to give all crops of carrots, onions, parsnips, late beets, corn, &c., good cultivation between the rows, until all the land is covered with the foliage of the plants.

* We can testify to the superiority of this variety, as cultivated this season by Mr. B., at the Agricultural College.—ED.

The Fruit Garden.

STRAWBERRIES.

August and September, we consider the best time of the whole year to make new beds, in order to insure good bearing next year. If good rooted runners are plentiful, select the best only, taking up the plant with a good ball of earth, and transferring them with great care to their newly prepared bed With such careful management they will barely feel the removal, and with ordinary care will become very strong plants and produce a good crop of fruit next spring. This extra care can, of course, only be given to plants which have to be removed a short distance.—When runners are plentiful, we always destroy the weak ones; but any varieties it is thought desirable to propagate to the utmost, we select all the strongest, and plant them in beds for bearing, and the late ones in separate beds for stock. These will not, as a general thing, produce much fruit until the following year, and then will be, under ordinary circumstances, very strong plants. Strawberries, to fruit in pots next spring, should by this time be well established, and in need of shifting into four-inch pots, into a compost of good, strong, turfy loam, well chopped over with good rotten cow-dung, and potted firmly.

Peaches, Nectarines, Grape Vines,—hardy and exotic,—attend to directions given last month.

INSECTS.

Do not omit to watch for *aphides,* (plant lice,) &c., &c. We have found strong soapsuds very effectual for destroying them, (plant lice,) by applying it through the nose of a watering pot or syringe.

RASPBERRIES,

As soon as the bearing season is over, should have all the old canes cut out, and the new ones thinned out to about four, unless wanted for making new plantations.

NEWLY TRANSPLANTED TREES

Should have the ground well worked between them, and a good coating of mulch applied as a top-dressing to every tree, covering a radius of not less than four feet from the stem. Frequent applications of soapsuds to all newly transplanted fruit trees, grape vines, strawberry plants, &c., will be of great and lasting benefit.

MILDEW

Will show itself in all close damp places, and do incalculable mischief if not checked. Sulphur dustings are the best remedy we know.

ARREARS.

At this time of the year we generally find ourselves in arrears in regard to some departments of our work, but as much of the planting is done, and little watering is required, and there is a momentary lull in the activities necessary during the early spring months, we would now pipe all hands to give an effectual working of the ground wherever the hand or horse cultivator can be used; the pruning and tying grape vines; working old, and new, strawberry beds; pruning old and neglected orchards; eradicating borers; with many other odd jobs which present themselves from time to time to the observant cultivator, and which are "too numerous to mention."

☞ "It is a mark of want of intellect to spend much time in things relating to the body; as to be immoderate in exercises, in eating and drinking, and the discharge of other animal functions. These things should be done incidentally, and our main strength applied to our reason."

☞ "Demand not that events should happen as you wish; but wish them to happen as they do happen, and you will go on well."

The Flower Garden.

ANNUALS,

To stand the winter, should be sown from the middle to the end of the month, in ground not too highly manured. The sorts to sow now, are white and purple Candy Tufts, the beautiful varieties of Nemophilas, Erysimum, Clarkias, Convolvulus Minor, the pretty Godetias, new Rocket Larkspur, Lupines, Escholtzias, French and German Poppy, and the beautiful varieties of Schizanthus.

STOCKS.

Intermediate, Queens, and Brompton, for flowering early next spring, should now be sown.—After about one inch high, they should be potted singly in small pots, and kept shaded until they make fresh roots. The soil should be good, turfy loam, not too rich, or the plants will become too sappy to stand the winter well. They are among the most beautiful of our early spring flowering plants.

PANSIES,

Towards the end of the month, should be propagated in quantities for planting out in beds, and for early blooming in pots next spring.—When well rooted, those to stand in open beds, should be planted in a good loamy soil, with a liberal admixture of good decayed cow-dung, sand, and a small quantity of charred rubbish, if there should be any on hand.

ROSES.

Prune Pillar roses, so as to remove a moderate amount of both old, and new wood. All that is left to be of its full length and at regular distances, that there may be good symmetrical heads next season. Short cuttings of Chinas and Bourbons will root now in the open ground, planted in a shady situation.

Notices of New and Rare Plants.

BY D. BARKER, MARYLAND AGRICULTURAL COLLEGE.

NEW ZONALE GERANIUMS.—This most splendid class of flowers, alike adapted for the adornment of the green-house and flower garden, and one of the best for cultivation as a window plant, deserves from their great improvement to be more generally cultivated. They vary in color from pure white, through every shade of rose, pink, and salmon, to the most dazzling scarlet, with form almost perfection. We have in our possession the entire stock of some from Europe, which we hope to describe with other novelties, both fruit and flowers, in forthcoming numbers of "The Farmer."

Fascination.—Flowers, a beautiful rosy salmon, with a margin of bluish white; a fine and beautiful variety, with good form and truss. Foliage, light green, with dark zone. Very effectiye.

Madame Vaucher.—A pure white Geranium; fine large truss, well up in the centre, giving it a fine, flat, even surface, and in form and color almost equal to the old double white camellia.—Habit, dwarf and compact. A beautiful variety.

Brilliant.—Light scarlet; an immense truss.—Light foliage, with dark zone. Habit, robust, well adapted for planting in the flower garden, or grown in a pot for green-house decoration.

Bel-Demenia.—A beautiful, rosy salmon color, of dwarf compact habit of growth; the trusses very large, and the petals of great substance, remaining in perfection for a lengthened period.

New "Mimulus Monstrosus."—This variety is a decided advance on all that we have hitherto cultivated. Habit, very robust and compact, producing its blossoms in the greatest profusion, and of gigantic size. Color, varying from a beautiful soft canary, to bright orange, with large broad blotches of claret maroon, of a velvety appearvnce; throat and lower lip densely spotted with the same color.

NEW LOBELIA.—*Lobelia Alba-cærulea.*—This very distinct and beautiful plant, alike adapted for the flower garden, planting in vases, or for a hanging basket, will be found a great acquisition, being a very profuse bloomer. The flowers are very large, being from half to three-quarters of an inch across, with conspicuous, white centre, edged with blue. Splendid habit:—annual.

Homemade Manure.

Twenty hens will furnish enough excrements in a year, if well cared for, to give an acre of corn a good start, equal to a liberal supply of the patent materials. The privy for six in a family, if well attended, will produce enough for the hill for two acres of corn; and then, if more is needed, clean up all the fine manure in the yard and in the barn cellar, mix three bushels of ashes to a cartload of thirty bushels, and immediately use it, putting a pint in a hill. It costs no money, but needs a little time and attention. I have never found the farmer yet who did not acknowledge that $10 is better used in making manure at home, than in the buying of others' manufacture. I believe this rule may generally be applied. Some exceptions exist. But that it is a bad policy to waste fertilizers at home, and buy foreign ones, is a fact too plain to be disputed.—*N. H. Mirror.*

[CONCLUDED.]

Cultivation and Manure as Fertilizing Agents.

By Henry Tanner, Professor of Agriculture, Queen's College, Birmingham.

[Premium—Medium Gold Medal.]

In addition to this benefit, another desirable result has been attained by the use of lime—viz: that, as nearly all soils contain ammonia in them, in a dormant state, the use of lime displaces part of this ammonia, and thereby this fertilizing matter becomes available for the plants growing in the land.

Thus it is seen that in the soil there are bodies capable of separating ammonia from the rain as well as from the atmosphere, and afterwards preserving these fertilizing stores until required for the crop. We have in the use of lime a double advantage; it not only gives the soil superior powers of acquiring that valuable fertilizing matter, ammonia, but it also renders the existing stores of dormant ammonia ready for active service in promoting vegetation. It is, however, of no practical value to us having in our soils the means of accumulating fertilizing matter, if at the same time we place it in a position in which this power is rendered inoperative; consequently we have two means by which to promote the accumulation of ammonia in the soil, and these are—1st, increasing the capabilities of the soil to absorb ammonia; and 2d, giving the atmosphere a free access to the soil, so that these powers may come into full operation. The addition of lime to the land has in this respect a double action—viz: it sets part of the ammonia in the soil free, and available for promoting vegetable growth, and it also renders the soil more competent for accumulating a store which will maintain the fertility of the land; and thus we have, in the use of lime as a manure, a valuable means of realizing the first requirement—an increased absorbing power. The attention may now, however, be advantageously directed to the facilities for the increase of these powers, and these are manifestly twofold—viz: the exposure of the soil fully to the air, and the passage of rain through the land. The tillage of the land is therefore just the agency required to accomplish this desirable result; for as I have said before, the inversion, stirring, and crushing of the soil by the various operations of ploughing, cultivating, harrowing, and rolling, each and all promote the exposure of fresh portions of the soil for atmospheric action; and whatever capability is possessed for the secretion of ammonia, the soil is thus furnished with the opportunity for its exercise.

If you view our field labor as so many means for exposing every portion of the surface soil to the air, you will at once realize the value of many operations which we have hitherto only considered as of mechanical value in preparing the land for seed, by rendering it light, and giving the roots freedom for their growth and extension. But the advantages are double; for not only is it necessary for the luxuriant growth of a crop that it should be so placed that its roots have a freedom of action for searching after the food which the crop requires, but, as I have already explained, the means we adopt for attaining this result equally facilitate the success of the crop by the accumulation of fertilizing matter which is being simultaneously made. This free and loose condition of the soil is equally favorable for the passage of rain *into* the soil; and when this is properly assisted by an efficient underdrainage, then alone is the full advantage derived from the rain, and its fertilizing contents.

With a knowledge of these principles, if you review that old established practice of fallowing, you will not fail to detect the reason for past success in this practice, and you will see another instance of that true union which exists between practice and science, which every lover of agricultural progress hails with feelings of pleasure. The true principle of fallowing has been to expose the land to the wind, rain, frost, and heat, and to keep the land moving as much as possible. Manifest have been the advantages derived from extra ploughing, which *to the eye* appeared at the time productive of little change or benefit, but the succeeding crop has in many such cases given evidence of increased capabilities of production, which, until lately, has been set down as simply resulting from the mechanical condition of the soil being more favorable for growth, instead of its being also referred in part to the increase of food for the crop which was thus obtained.

The use of lime for fallows is an old established practice loudly decried by some as exhausting to the land, but still the practice was continued, because it was found to succeed; and now the practice has, by its successful results, survived the period of its condemnation, and entered into one of more honor, in which both practice and science agree to sanction and advise its use. Here let us all take a lesson for our future guidance, and remember that old established and successful practice has truth for its foundation, and although there may also be some error intermixed with it, yet we shall be unwise to condemn any successful practice as useless, which our present imperfect knowledge cannot exactly approve of.

We have now to notice the influence of tillage

operations upon the organic matter of the soil; and, without going into any unnecessary detail, I may remind you that the passage of rain water (and its associates from the atmospheric air) into the soil, very materially assists in promoting the decay of these organic matters, and renders them serviceable for the support of vegetation. Thus every portion of the soil derives advantage from the tillage operations to which it is subjected.—The mineral matter of the soil which is in an active condition, is thus enabled to pass into the circulation of plants. Those portions of the soil which are not in an advanced stage, but lie *dormant* in the soil, are by the same power awakened to action, and transferred into an active state; whilst the insoluble grit of the soil has also gradually progressed into the next stage, or the dormant condition. The stores of ammonia which the atmosphere contains are gathered by the soil, and subsequently liberated when required by a growing crop; whilst the organic matter of the soil is also, by the same agency, prepared to minister to vegetable productiveness. Thus we have nearly all the requirements of our crops supplied from natural sources, and these are rendered available by our various tillage operations.

The conclusion to which we are brought by these facts is, that tillage operations render free and available for vegetation certain fertilizing matters which are essential for our crops, and that the degree to which the resources of any soil are developed is proportioned to the extent of these observations. Practically, it matters but little whether so much alkaline matter, ammonia, and organic matter is added to the soil by manure, or converted from a dormant to an active condition. It is manifest that in both cases the soil is equally enriched by equal quantities of the same materials; but there is this advantage in favor of the tillage operations, that whilst the two methods may be equal in a chemical point of view, yet the mechanical conditions are in favor of cultivation as a substitute for manure. The food being the same, equal results would be obtained, provided other conditions were equal; but if the mechanical condition of the soil is very much improved, it will enable the crop to grow more freely, and this is so much the more advantageous for the increase of the crop, resulting from our tillage operations.

But what are the practical inferences we are to draw from these principles? Are we to consider our farms independent of our various manures? This would certainly be a premature conclusion. We see how advantageous the use of lime is, and our arguments are certainly in favor of its frequent employment in moderate quantities. It is equally clear that there is a great difference in soils as regards the mineral matter they contain: for if they do not possess the several ingredients which the crops require, our tillage operations cannot develop them, and hence such soils will still be dependent upon the supply of manure for fitting them for being productive.

Those soils which possess rich stores of mineral matter required by plants will be enabled to yield them to vegetation under the assistance of good cultivation. But as the majority of our soils are very deficient in phosphates, and as these valuable fertilizers, even upon well-managed farms, are being continuously removed from the land, and do not in regular course of farm management find their way back again to the land, it is evident that few soils could withstand the removal of this important group of manures without some return being made periodically, and hence we may fairly anticipate considerable advantage from the continued employment of phosphatic manures. The value of farmyard manure will still be equally great, and its economical value will not be depreciated because of tillage operations being in some manner a substitute. They must rather stand side by side as valuable co-operators in the same service, and not to be looked upon as competitors. We must not prize our manures less, but value cultivation more highly; and I have no doubt that thus the standard of our crops will be materially raised, especially if an active cultivation of the land is supported by a well-managed homestead, in which food is economically consumed, and the manure carefully preserved and prepared for the use of the farm.

You may, however, justly require of me some practical results in support of the principles named. This I can readily furnish. In fact, I have already based my arguments upon the success which has generally attended the practice of fallowing, and upon which most conclusive evidence is to be obtained throughout the country. I should, however, be guilty of a great oversight if I omitted to make reference to the "Lois Weedon" system as another illustration of the principles I have already specified. Much as this has been a bone of contention both among practical farmers in different districts, as well as amongst scientific men, as to the principles involved, still I feel that I must not avoid making reference to it. Whatever may be our preconceived ideas respecting the nutrition of plants and the exhaustion of the soil, still here we have a fact establishing beyond a doubt that wheat may be grown year after year upon land of moderate fertility; and notwithstanding that the soil has not been enriched by the use of manure, still the land has

progressively increased in fertility, and the crops become more abundant and of superior quality. It is desirable that I should briefly notice some of the peculiarities of this system. The plan adopted by the Rev. S. Smith, at Lois Weedon, in Northamptonshire, is to divide the field into lands five feet wide. In the centre of these lands, the wheat is dibbled at the rate of two pecks per acre in three rows, one foot apart, thus leaving a space of three feet in width unoccupied. When the plant is up strong, the whole of the land is dug with a fork and allowed to lie rough for the winter. In the following spring the land is levelled and well cleaned by the use of the horse-hoe, and this implement is freely used until the wheat is coming into blossom. The rows of wheat are then earthed-up with a mould-board, and in the furrows thus made the subsoil plough is used tolerably deep. To overcome the injurious influence on the wheat, which is found to arise from the land being too loose, the Crosskill roller is used before the ground is sown, and also in the following spring. In this manner one-half of the ground is occupied in producing wheat, whilst the remaining half is under preparation for the next years crop. Under this system the produce of this land (not worth 30 shillings per acre,) has been raised from 16 to 40 bushels per acre.—The crops from 1847 to 1856 inclusive, averaged 34 bushels; the crop of 1857 produced 36 bushels; the crop of 1858 equalled 40 bushels; and thus the land, instead of showing any sign of exhaustion, gives proof of increasing fertility.—The question naturally arises, To what source are we to trace these anomalous circumstances, that with the repeated removal of these crops, without any compensation by manure, the soil advances in fertility? It can be referred to no other causes than those I have already named—the conversion of the dormant matter of the soil into an active condition, whilst at the same time, and under the same agency, the soil feeds upon the nitrogenized matter of the atmosphere, and secretes a store of food for the growth of the succeeding crop.*

With facts before us like these, it is folly to doubt the possibility of such being done, or to set it aside as an incredible story. It would, however, be equally wrong to entertain the idea that the same results would be attained under other circumstances. Doubtless, there is much land upon which equally satisfactory results may be realized, but there are also many districts in which the system could not be followed out remuneratively. A moment's consideration will prove this. To produce a crop of wheat, the land has to yield up not only nitrogen in a state fitted for assimilation, but also mineral matter, and without these supplies a luxuriant crop cannot be produced. The nitrogen may be derived from two sources, the soil and the air; but *the mineral matter can only be supplied from the* SOIL. If by any plan we can render these supplies available with greater rapidity than the crops draw upon the land, then the productive powers of the soil are not reduced from the loss; but under other circumstances, the land must gradually become less productive. The plan adopted at Lois Weedon succeeds in maintaining the productive character of the land, and its success may be traced to two circumstances.

1st. That the soil contains the necessary supplies of mineral matter ready for being brought into use; and,

2d. That the tillage operations are capable of rendering these supplies available.

The absence of either of these conditions must produce a failure; for if the required mineral matter were absent from the soil, no amount of tillage could produce it; and so, also, if the mineral matter were present, but under circumstances which would not allow of its being rendered available, it could not be of any service to the crop. This is a system which can only be fully carried out upon soils possessing certain mineral ingredients required for the wheat crop, for its chief merit consists in *the development of hidden or dormant stores of fertility*, which may exist in soils when little expected. In the case of the Lois Weedon soil, we have a thorough wheat soil, and hence its powers are brought into action; but whereas you cannot develop properties which are not possessed, you must not expect to carry out this plan upon soils of an opposite character. We must not, however, reject it entirely, even for these soils, for there is a most valuable lesson to be learned from it, which will *always* be of service, and that is the proof it gives of the fertilizing results of tillage operations. The Lois Weedon system may have its special districts for its successful or unsuccessful adoption, but the lesson we gather is of universal application—viz: that the culture of the soil is a most powerful and valuable cause of fertility.

We may, in conclusion, add a few remarks to what we have already stated as to the extent to which tillage operations are a substitute for manure. I have already shown that they are valu-

* A good deal might be argued in favor of the chief supply of nitrogen in Mr. Smith's successful practice being obtained from the decomposition of the organic matter in the soil, rather than by the soil absorbing it from the atmosphere. And also it may be argued, that in this case the wheat plants are placed in conditions favorable to their absorbing ammonia or nitric acid by their leaves, from the air.—ED.

able promoters of fertility in all our soils, by the conversion of the dormant organic and inorganic matter they contain into fertilizing materials, fitted to support and nourish vegetation, and that at the same time the soil is rendered more competent for absorbing from the atmosphere nitrogenized matter. These results, though evident upon all soils, will be more manifest upon soils already possessing a fertile character, and upon such soils tillage might to some extent supercede the use of manure; but upon inferior soils, although beneficial results will be evident, still the advantages will not be equal, and there will be greater necessity for the use of manure. Upon whatever soil the trial is made, the result must of necessity be regulated by the composition of the soil. If a soil is being cultivated which requires a free supply of the phosphates, and there is a natural deficiency in the soil, it is clear that the use of some phosphatic manure will be desirable, for no extent of tillage can compensate for the absence of such a body. It is just the same with the other ingredients required by our crops. If the soil is fertile it possesses these stores, and then culture brings them into use. It may, however, be said, cannot a chemical analysis of the soil at once indicate whether or not a soil is competent or not for the successful application of this system? I reply, it may be a safe guide in some cases, but the indications of nature, by the general products of the land, will be a safer guide in the majority of cases. There is, however, one important advantage which will result from tillage operations, and that is the storing away in the soil much of the ammonia of the atmosphere. This will take place upon all soils, but upon rich clays and loams more especially so. This is another powerful inducement for stirring and exposing the land—we have seen how valuable lime is in producing this result, and that it is an important co-operator in the action. Hence tillage operations in no way supercede the use of lime, but render its action more beneficial; neither does the cultivation of the land supercede the supply of manure for the crop when the land is deficient in one or more of the ingredients which the crop requires.

It is for these reasons, that whilst we value tillage operations as *most important* agencies for promoting the fertility of the land, we must not allow them to supercede the use of manure. We shall still find an economical use of our manures equally imperative and remunerative, and our higher appreciation of the great value of tillage operations will result in an increase of the average produce of our soils, rather than in depreciating the value of manures. Extremes are at all times dangerous. Whilst, therefore, we may more highly value tillage operations, and upon many soils realize thereby similar results to those attained from the use of ammoniacal manures, we must at the same time be cautious not to overlook the important results we obtain by the use of our various natural and artificial manures, and look to them as valuable promoters of fertility, which will always produce profitable results in proportion to the skill and discretion with which they may be prepared.

Prof. Mapes' Theory of the Progression of Primaries.

In geological investigations it has been ascertained that the first animals that were created on this earth were of very simple structure—a mere sac, like the clam or oyster, in fact, more simple even than they. Afterward animals of more complex structure were created—such as sharks and other low orders of fishes; after these the first amphibians made their appearance; next in order came forth reptiles—the lowest form of land animals; after the reptiles mammalians were created; and last of all, man—the most complex organism on the globe. Through immeasurable ages the animal creation advanced by progressive improvement "from the monad up to man.

The same progress took place in the vegetable creation. In the oldest fossiliferous rocks no remains of vegetables are found except those of exceedingly simple structure—sea weeds without flowers or other organs; while the upper and newer rocks are filled with plants of more complicated structure, constantly becoming more complex, till, in the present age, we have the modern tree, with its plumule and radicle, its trunk, branches, leaves, calyx, petals, pistils, stamens, anthers and pollen—a structure with numerous organs for its own growth and the propagation of its species.

Water is a compound substance, made up of other substances, oxygen and hydrogen, which can be separated. Iron, on the other hand, is a simple substance, which cannot be decomposed. There are about eighty simple or primary elements at present known, though only about twenty of these exist on the surface of this earth in any considerable quantity. Sixteen of the primary elements are used, by nature, in building up the structure of plants and animals—twelve being employed in minute quantities only, while the principal portion of all organized beings is formed of the four organic elements, oxygen, hydrogen, nitrogen and carbon.

Now, Prof. Mapes' theory was that these ele-

ments had, in the long ages of creation, gone through the same progressive improvement as the plants and animals which they combine to form. He contended that before carbon could enter into the structure of an oak or a lily, it must first pass through sea weeds, acrogens, cycads, and the other low and simple forms of vegetable life—being itself modified and improved with the general advance in the vegetable creation. He asserted that a rose could not be nourished with potash direct from the feldspar rock, but that the potash must first go through its series of progressive improvement in mosses and other low forms of vegetables.

This theory has received a great deal of ridicule; the only objection that we make to it is the absence of evidence in its support. Had Prof. Mapes devised and conducted an experiment which should have proved that a rose would not assimilate potash from feldspar, he would have been regarded as the author of a great discovery that would have made his name immortal; but the theory, without evidence, is to be ranked among the thousands of unsupported suggestions that are constantly coming from the teeming brains of mankind.—*Scientific American.*

The Poultry Yard.

French Fashion in the Poultry Yard.

We give our lady friends notice that they are to have French fashions in their poultry yards, and that they must be on the *qui vive* if they would not be behind the times. Black Spanish Chitagongs and Bramahs, are to be superseded by *La Fleche*, *Houdans*, and *Crevecours*. Not that they are any better, though there is strong testimony to that effect, but better than that, they are new and fashionable; they are going to be "all the rage." Why need they be better than the old, any more, good madam, than that your new bonnet should be more comfortable, or protect your head better than the old one, which you lay aside with disdain. "Worth makes the man," as you know, "and want of it the fellow," but not so with chickens and bonnets. Go to your garret and you will find, maybe, some of the most ridiculous old "frights" of bonnets, and yet you'll acknowledge you once thought them perfect "loves." Yet the bonnet has not changed, nor have you,—only *the Fashion*. So with the chickens, the fashion is demanding a change, and the agricultural papers are echoing the call. The following is from the London *Field*:

"All poultry fanciers are aware that the best breeds of French table fowl are coming into favor in England. The Crevecœurs have now been introduced some years, and twenty pens made their appearance this week at the Birmingham show. The La Fleche are also established as a favorite variety. But less is known of the race now under notice, the Houdans, and we have, therefore, thought it desirable to illustrate the breed by a drawing made from living specimens.

The Houdans are eminently table fowls—large in size, with fully developed breasts, short legs, and little offal. The feet are five-toed, the crests large, and the combs very strong and peculiarly developed. The plume is white, irregularly spangled with black, giving them a very showy appearance. The sickle feathers in the cocks are black, and the saddle feathers black, tipped with white. Should these fowls become as great favorites in this country as their merits, in an economical point of view, entitle them to be, doubtless they will be bred to a standard as regards plumage and comb. This has already been done with the Crevecœurs, in which breed uniformity of color and size of crest are, along with great size, essential to success in a show pen.

Respecting their merits as poultry for the table, we think very highly. The pullets come under Shakespeare's definition of "a short-legged hen," and, with "the joint of mutton and any little tiny kickshaws," would form as desirable a dinner in this the nineteenth, as in the seventeenth century. In fact, the Houdans are an ancient race, and may be seen figured amongst the most prized designs of the poultry yard by Hondekeeter, and the other older animal painters.

The fowls which have been so characteristically drawn by Mr. Wells, are the property of the National Poultry Company; we shall, therefore, hardly do them full justice without we insert the following description from the report of their manager, Mr. Geyelin:

The Houdan fowl has a very bulky appearance, its plumage invariably black and white spangled, a crest of the same color; comb, triple, the outsides opening like two leaves of a book, and the centre having the appearance of an ill-shaped long strawberry. With the cock the comb is very large, while with the hen it ought to be scarcely perceptible. The legs are strong and of a pale lead color, with five claws, the two hind ones, one above the other. Strongly developed whiskers and beards both in cocks and hens. This is one of the finest races of fowls, but its qualities surpass even its beauty; besides the smallness of their bones, the fineness of their flesh, they are of an extraordinary precocity and fecundity; they lay large and white eggs, and the chickens are fit for the table at four months

old. It is, however, observed that they are very indifferent for hatching. The weight of adults is from 7 lb. to 8 lb., in which the bones figure for one-eighth. The chickens, when four months old weigh, without intestines, about 4½ lbs. each.

Feeding Poultry.

Onions are said to be an admirable food for fowls, or rather an adjunct to their ordinary food. If given regularly, it is said that they will prevent the attacks of the more ordinary diseases of poultry.

Meat is said by some authorities to be an essential food for poultry, especially in the winter, when they cannot get the worms they pick up in summer. Others, again, maintain that the habit of giving meat to poultry is productive of grave evils—the cause of many of the worst forms of disease which affect them. By these authorities it is called an unnatural food, inasmuch as the digestive organs of the birds are not fitted to assimilate them. There must, we think, be some mistake in all this; for we know of a surety that fowls do eat when they can get it, and entirely of their own accord, an enormous quantity of animal food; here it is not cooked; the game found in nature's garden is raw. If meat is an unnatural food for poultry, they certainly have a most unnatural appetite for it. Throw in *one* lump of meat amongst a lot of fowls: if not literally a *bone* of contention, it is something vastly like it, so eager are all to get a grab at it. We believe the habit of giving much food in a short space of time to poultry is a very bad one. If you notice their habits you will perceive that the process of picking up their food under ordinary, or what we may call the natural condition, is a very slow one. Grain by grain does the meal get taken, and with the aggregate no small amount of sand, small pebbles, and the like, all of which passing into the crop, assists digestion greatly. But in the "henwife's" mode of feeding poultry, a great heap is thrown down, and the birds allowed to "peg away" at such a rate that their crop is filled far too rapidly, and the process of assimilation is slow, painful and incomplete. No wonder that so many cases of choked craw are met with under this treatment.—*Mark Lane Exp.*

☞ "I am rich enough, and can afford to give away £100 a year. I would not crawl upon the earth without doing a little for truth. I will enjoy the pleasure of what I give by giving it alive, and seeing another enjoy it. When I die, I should be ashamed to leave enough for a monument, if there was a wanting friend above ground.—*Pope to Swift.*

Grass or Grain.

In one of its articles on "the Meat Manufacture," the *Agricultural Gazette* draws a comparison between the products of Grass land and land under the plow. In this comparison the estimate is not based upon the yield of what really ranks as the *best* grass land,—as it is taken for granted that that which produces 12 to 15 tons of green food per acre, yearly, say 2½ to 3 tons hay, "without any labor but that of repairing the fences which divide it, destroying the docks and thistles which invade it, and supplying manure to maintain it, is producing more at less expense than perhaps it could do in any other condition." But with poorer pasturage or meadow, on which 8 tons of green food, or say 1½ to 1⅞ tons of hay, is the highest average yield, the opinion is expressed that a rotation with grain crops could often be substituted to great advantage. Under good English management, and the writer speaks from his own experience, such land with a six course system of rotation, has been made to yield, *beside the grain harvested*—1st year, 25 cwt. wheat straw; 2d year, 24 tons mangold wurtzel; 3d year, 25 cwt. wheat straw; 4th year, 18 tons Swedish turnips; 5th year, 20 cwt. of barley straw; 6th year, 10 tons of clover (green,) or a total of 52 tons green food and 3½ tons litter, in addition to grain,—while under grass, at 8 tons a year, the total product would have been only 48 tons green food. As to the practical results, he says:

"On the farm I write from, three-quarters of which was formerly grass, a stock of about 40 head of oxen, fattening to 60 or 70 stones, and between 200 and 300 sheep, fattening to 24 lbs. a quarter, with 50 or 60 pigs, are now kept during winter, and about half those numbers during summer, where formerly a herd of 25 cows, and about 20 yearlings and two-year old heifers, with a few pigs, were maintined in store condition; while in addition to the above, the land now permits an annual sale off it of about 4,000 bushels of wheat."

POUNDS OF GRASS TO A POUND OF MEAT.—It is stated, on good authority, that an acre of the best of the Lincolnshire grazing land—and it is a county famous for its grass—will carry an ox and a sheep "from New May-day till Old Michaelmas," and that while grazing during this period, the former will gain 280 lbs. and the latter 40 lbs. in net weight of meat when slaughtered.

The acre will thus yield 320 lbs. of meat. Its produce of grass may be 16 tons—perhaps more. This is one pound of meat for every cwt. of grass, but we must remember that the grass of such land differs from the average in the quality as well as in the quantity of its produce.

Fruit Department.

Black Knot.—Our Maryland readers are very familiar with the *Black Knot*, which, within some years past, has made havoc especially with the morello cherry trees. We have seen within a small compass, morello cherry, and damson trees, completely destroyed by this fungus, while a valuable red cherry, of which we do not know the name, but which has a good many of the characteristics of the morello, was entirely untouched by the disease. This cherry is valuable for preserving,—larger, and lighter colored than the morello; a healthy and vigorous tree, and an abundant, and sure bearer. Why it should be exempt from a disease, which is destroying the morello everywhere, we do not understand.

A correspondent of the "Gardener's Monthly" says of this disease: "I am inclined to think that some ingredient in the soil is the cause of the mischief, and that a remedy can be discovered, by which the evil may be avoided. The wild choke cherry, in some places, is nearly dispatched by its ravages, and the worst infected of this shrub, are found near old stone walls, where vegetable mould accumulates. Salt, lime, and *sulphate of iron*, (copperas,) have been used as topical remedies, applied to diseased limbs. Perhaps these elements are needed at the roots. Sections of such diseased branches exhibit accumulations of deformed *buds*, crowded together in the tissue as if produced by repletion. By cell growth this unusual form rapidly increases when the sap is most active; and a succumbent, spongy mass, is the consequence. By extraordinary pressure the bark or cuticle bursts, and the timber weeps and bleeds, inviting first the weevil, which mistakes it for an unripe fruit, and next the cynips, which deposits its eggs in the hatched larva or maggot, and finally, the invisible spores of the spheria, which rapidly vegetate, and crowd the surface with opaque black spherules, containing within a whitish flesh, filled with myriads of seeds, to spread, and be dissipated by the atmosphere, when ready to fall from the deadened and brittle branch."

Plant Winter Pears.

Planters of pear orchards, in making their selections, will often take six or eight trees of summer varieties, thirty or forty of autumn sorts, and, perhaps, one or two of winter. When the trees come into bearing, the summer varieties furnish a fine supply, when most other fruits cannot be obtained, and are, consequently, very acceptable. The autumn sorts ripen with peaches, plums, grapes and apples; and all taken together yield, perhaps, a great surplus, to a family that does not wish to go into marketing. When winter arrives these fruits are gone, and can be enjoyed only by recollection. The few dozen winter pears, from the single tree or two, do not last long. Perhaps they are eaten before half ripe, in the eagerness to enjoy something of the kind at this sparse season of the year; and the owner concludes, as a consequence, that winter pears are hard, tasteless and good for nothing. Instead of coming to this summary conclusion, he should plant enough for a crop that need not be eaten until it has ripened up into its golden color, melting texture, and rich and excellent flavor. We have found nearly all long-keeping varieties to mature into all the excellence of which they are capable, by giving them a good, cool cellar and plenty of time to ripen.

Among some of the best—which, so far as our observation has gone, have uniformly turned out of excellent quality—are the Lawrence, Winter Nelis, and Beurre Gris d'Hiver. There are several other sorts that ripen very nearly but not quite as well.

Now if we number our trees, according to the length of season they are to fill, we should have as many of late sorts—to extend, say, from the first of November to the end of January, or later, as for all summer and autumn, or from the first of August to the first of October. There should, indeed, be more, for these autumn fruits have now disappeared.

Birds, Insects and Fruit.

Fruit growing, in the abstract, is a charming pursuit, but practically it is beset by many perplexities. Not only is the cultivator disappointed by unfavorable seasons, but the insects destroy his foliage and the birds eat up his fruit. In a state of nature matters are better arranged, and we do not often find any one insect or bird sufficiently numerous to seriously injure our native plants. The small birds keep the insects in check, while the birds of prey prevent an undue increase of the fruit-eating birds—bird, insect, and plant, have a fair chance in the "struggle for existence," and all goes on harmoniously. Civilization has destroyed this natural balance of things, and now fruit culture is in good part a fight with birds and insects. We have dropped a cog-wheel somewhere in the machinery, and it is running badly. This interference in the natural balance between the different departments of vegetable and animal life found a striking illustration a few years ago, in one of our large cities. New water-works were built, and the reservoirs were carefully furnished with strainers to keep out the smallest fish, and

no one was in danger of finding a minnow in the tea-pot. All went well for a while; but the water gradually acquired an unpleasant taste, and finally became intolerable.

Science took up the microscope, and found the water full of animalcules, little oily fellows, which imparted the taste to the water. These, in the absence of their natural enemies, the fish, had bred to an inordinate extent. The obvious cure was to let in the fish, and it proved effectual. The indiscriminate shooting of birds, formerly so common, allowed insects to get a fine start. The agricultural press, ours among the rest, joined in the cry "spare the birds." The appeal had its effect; insects are much less destructive than they were a few years ago. But the birds will eat fruit as well as insects, and now the cultivator is in a dilemma to decide whether it is best to let the insects feast on the foliage of his vines and trees, and thus destroy his crop of fruit, or to allow the birds to check insect depredations, and take the fruit for their pay for doing the work. The question comes up: are all birds the fruit-grower's friends, and if not, which shall be killed and which spared? The manner in which birds will dispose of strawberries, grapes, and other small fruits, is something astonishing to one who has never seen it. In some places it is impossible to get a bunch of ripe grapes of any of the nicer kinds, for birds are excellent judges of quality in fruit. We are glad to see that the subject is attracting the attention of horticultural societies. At a recent meeting of the Alton (Ill.) Society, a report and discussion upon birds formed a part of the proceedings. It is hoped that other pomological associations will discuss the matter in order that some general laws may be established. We give the conclusions of the Alton Society, which may serve as a basis for the action of others.

It was voted to destroy the Baltimore Oriole, Cherry Bird, Cat Bird, Jay Bird, Sap Sucker, and his kindred. The Robin was not placed in the list, though he received a very bad name and should take warning. Our own belief is that he is as bad as the rest. One gentleman stated that the Oriole had, during the past season, cost him 250 gallons of wine. The birds reported as not destructive to fruit, and to be fostered, were:—Wren, Swallow, Martin, Black Bird, Meadow Lark, Pewee, Blue Bird, Chip or Snow Bird, Red Bird, Ring Bird, Cuckoo, Quail, Owl, Hawk, and Dove. We notice also that the Massachusetts Horticultural Society has appointed a committee to consider the case of the Robin, and to report upon his value, or otherwise, to the fruit grower. *American Agriculturist.*

Fruit Trees for Ornament.

When we pass the turning point of the winter, we leave behind the things of the past, and look forward to the sunny days of spring. We see in anticipation the many colored beauties of the flower-garden, and the varied fruition of the orchard, almost as glorious. We begin, in fact, to think of flowers and fruits; how we shall get them, and what we shall do with them, and in the mind's eye we have a real, present enjoyment, of things that are to be.

Now, meditating, we are happy in the image of a glorious old apple tree we know of, whose sturdy trunk, with just the least inclination from the upright, bears up its wide-spreading branches, while they wave aloft, in breeze and sunshine, ten thousand thousand blossoms—apple blossoms,—each one of which has a separate and special beauty.

Now, we have a cherry tree, which has sprung up by hedge row or fence side, like a willow by a water course, and without help of pruning knife, but prospering rather by neglect, has, by the hidden principle of an orderly life, developed an organism of perfect symmetry. Its towering top is covered as with a mantle of snow, and every snow-flake has a starry brightness and beauty of its own.

These, and very many others, glorious in their spring-time beauty, and precious in the autumn fruits which crown them like the good deeds of a good man's life, come back to us now from the far-off scenes of childhood. We sit by the winter fire and commune with them, almost as with glorified spirits of the departed.

Speaking of spirits, here is a matter we would fain talk about to Mr. Downing—the great Landscape Dowding—who has taught us to enjoy and love so much the beautiful in nature We would protest against the principle inculcated by some writers upon taste, and upheld, if we remember aright, by him, that in adorning a landscape by planting, fruit trees are not admissible, because the idea of utility mingles with and mars that of the beautiful. This sentence condems our apple and cherry tree, and every other like beautiful object, to the straight line of hedge or fence, or the right angle of a stiffly ordered orchard. We do not appreciate the argument. We do not see that a tree is any the less beautiful for the fruit it bears, than that a face is less fair because the spirit of kind and gentle deeds beams through its loveliness. With no disposition to exclude our old friends of the shrubbery, or any of our trees that are merely beautiful, we do favor the idea of making the useful contribute when they may to ornament as well as use. We would have

them planted and arranged with a view to beauty in the landscape. Especially should this be done in small country places, where little expense may be afforded. Many of our fruit trees are very beautiful, and all sufficiently so to make them serve the purpose well in spring with their wealth of flowers, while in the fall they offer us a more substantial interest in their abundance of fruit. With these views, we commend the following remarks from a cotemporary to the same effect:

"Apple and pear trees should be in more general use as ornamental plants, and we wonder why they are not more frequently planted in places of moderate, or even limited extent, as suburban and villa residences, by intermixing them with common shrubbery plants. The great beauty of the bloom of some varieties of apples and pears would of itself entitle them to a place in our grounds solely as ornamental plants, and I wish I could persuade nurserymen to make a selection for this purpose, I imagine many country gentlemen would be induced to purchase them for their homesteads, if good sized plants could be procured, and that proprietors of small places would be glad to introduce them. I say nothing of the Chinese apples and pears, which are just now in bloom, and are worthy of all the admiration they call forth; but having noticed for several seasons how really beautiful the bloom is many varieties of apples, I venture to suggest the matter to your readers. As for the pear, it is, when old, one of the most picturesque trees to be met with, and invaluable as an ornamental tree when in bloom. I strongly advise planters try the Beurre Rance pear, and three or four other new varieties; these have fine foliage, and flowers, and a strong habit of growth, which, as they grow old, would prove useful ornaments to landscape scenery."—*Weekly Sun.*

Cultivation of the Blackberry.

Soil.—The blackberry delights in rich, rather moist soil. It would be almost impossible to get a soil too rich. We have seen a portion of a blackberry patch receiving the wash of a barnyard, and the canes grew to an immense size, and produced the largest berries we have ever seen, while the quantity borne was almost incredible.

Preparation of the Soil.—The soil should be deeply ploughed and trench-ploughed in the fall. By trench-ploughing the soil is deepened, and a portion of the subsoil is brought to the suaface, where it is subjected to the ameliorating influence of the frost, air and sun. In February or March the ground should be ploughed, and the subsoil or lifting plough used, which breaks up the subsoil, without bringing any of it to the surface. We are satisfied from our own experiments that this preparation of the soil will be amply rewarded by the increased amount of fruit produced.

Time and Manner of Planting.—The best season for planting the blackberry is autumn, if the soil is in a proper condition. The blackberry commences growth very early in the spring, and if disturbed at this period by transplanting, is very liable to die. None of the small fruits so imperatively demand planting in the fall or very early in the spring. If the plants can be set out early in March, or in the first opening of the spring it will answer, but if the planting is delayed, it will be at a sacrifice of a large portion of the plants.

The plants should be set out in rows eight feet apart, and the plants should be set two feet apart in each row. Give the ground between the rows good culture the first season, and the second keep all the weeds down, not working deeply between the rows. Strawberries may be grown between the rows the first two years, if preferred. Let the plants come up thickly between the rows, but cut off with a hoe, even to the ground, all suckers that come up between the rows, treating them as weeds. The plants coming thickly in the rows form a kind of hedge, the canes mutually sustaining one another, thus rendering stakes and trellises and the trouble of tying unnecessary.—We have practiced this system with great success, and those who have seen our patch in fruit say the yield was enormous. There is no care or labor required in training by this method.—Those who go to the expense of procuring stakes and setting them, and tearing their flesh to pieces in tying up the canes, would avoid the trouble after trying the plan we recommend.

Pruning.—The only labor required by this method of treating the blackberry is in pruning. This is done in summer. When the plants send up the canes four or five feet high, go over the patch with a corn-knife, and cut off the tops of all the canes to the height of about four feet.—This will then cause them to throw out laterals, upon which the fruit is produced. The plantation must be gone over several times during the season, as new canes are raising themselves, and their tops must be cut off as before recommended. If the laterals get too rampant, and in the way, as they will, they must be shortened in. The only implement required for this work is a corn-knife, and one man will prune several acres per day in this manner.

I would particularly recommend that after the plantation is established the ground between the

rows should not be disturbed. It will break the roots, and cause an immense amount of suckers to put forth and greatly weaken and lessen the productiveness of the bearing canes. The best plan is to spread a heavy mulching of straw, or, what is better, coarse manure between the rows, thus keeping down the weeds, rendering the soil moist and enriching it at the same time.—*N. I. Colman, before the Horticutural Society.*

Plea for Permanent Grass Lands.

Observation and experience from my youthful years convince me that lands natural to grass, and desired for its production, should never be disturbed by the plow, but their fertility kept up by top-dressing of animal manure, ashes plaster, muck, earth, or whatsoever enriches—pastures at almost any time; mowing lands soon after the hay crop is removed, that the surface dressing may act upon the grass as the earth does upon other crops under cultivation; also affording protection and warmth during the cold and wintry season.

Natural meadows—that is, the level land bordering on streams and rivers—are undoubtedly best for mowing, and can usually be made smooth without even a first plowing, and are sometimes found self-sustaining; also, lands receiving the wash of hills, roads and barnyards, often keep up their fertility without any direct application, though the hay crop is continually taken off. Lands less favored naturally, must be treated artificially, and strengthened and replenished by irrigation, or some fertilizing substance applied to the surface.

Plowing seems to destroy the life and take away the heart of the land for grass, which almost always soon runs out after it, and must be richly manured and thickly seeded, and the process often repeated, in order to keep it up.

The custom with farmers here, is to plow annually a small piece in their mowing lots—we have but very little natural meadow land—put on the entire manure of a large stock, get a good crop of corn, followed by oats, with new seeding, then a fair hay crop for about two seasons.

If the grass has been improved, it has *not* been done by the cast-iron plow, but by the liberal manure. A less portion put on as a top-dressing would have resulted in a greater and more permanent benefit, besides the labor of getting off the stones and preparing it for the mower.

It is also the custom to plow a piece in the pasture, sow to buckwheat, followed by oats, with new seeding, and is then assumed that the land is made better, been *enriched*, while in fact it has been made *poorer* to the amount of the two crops taken off, besides otherwise injuring it for the production of grass, as a few years will show.

This unnatural method of *improving* old pastures by *repeated* plowing and cropping, has, in many instances, been fairly "*run into the ground*," and many of these naturally fertile and *grassy* hills have become poor and waste places, while others near by, which have never been poisoned by the plow, nor too closely fed, still, to a good degree, maintain their productiveness.

If an old pasture could be spared a few years to rest, and to grow up to white birches or other trees, whose roots should penetrate and pervade the compacted soil, while their limbs and leaves would give resting and shade in the summer, and warmth in winter, and altogether rarifying, and ærifying, ameliorating, and renewing its condition, then cutting off the young growth, and you have the best kind of new ground and good pasture for years, enriched by shade and rest, fallen leaves, and decaying stubs and roots. The *first* plowing is the beginning of evils, and should never be done where grass is desired.

To hear an old farmer, in passing over his deteriorated mowing or pasture lands, say "the grass has run out here, this needs plowing," is strange logic to me. I believe in Cincinnatus *and the plow*, but on *grain* and *not* grass land.

The sage saying of the Scotch minister—(our friend John Johnston will agree in this)—when taken by his parishioners, in time of drought, around with them from field to field, to pray for rain and the blessing of Heaven upon the parched and feeble crops, coming to a very poor and neglected field, he said to his brethren, "Pass on, pass on; it will be of no use to *pray* over this land—*it needs manure!*" This was common sense and philosophy, as well as piety.

It is somewhat of *plowing* as of praying to make grass grow on a poor or run-out field—*plowing will do no good; it needs manure.*—*In Country Gentleman.*

A. P. VIETS,
Hancock, Mass.

☞ "Men are not disturbed by things, but by the views they take of things. Thus death is nothing terrible, else it would have appeared so to Socrates. But the terror consists in our notions of death, that it is terrible. When, therefore, we are hindered, or disturbed, or grieved, let us never impute it to others, but to our own views. It is the action of an uninstructed person to reproach others for his own misfortunes; of one entering upon instruction to reproach himself; and of one perfectly instructed, to reproach neither others nor himself."

Erroneous Teachings.

Those who are willing to accept and profit by the teachings of agricultural science are often misled, and in consequence disheartened, when they follow those who assume to be teachers. It is difficult to guard against this evil. It is not only that the wisest and most knowing are often themselves at fault, and teach theories which they afterwards have occasion to correct, or teach a false application of a true principle; nor that the learned differ very essentially as to the most important theories, as exhibited in the celebrated discussions of Baron Liebig and Lawes and Gilbert. This is to be looked for until we have an agricultural science better established. But our trouble, ordinarily, is with those who, in their zeal to be teachers, run ahead of the teachings of science, and proclaim for truths what are rather their own hasty inferences than legitimate inductions from well-ascertained facts. Hence we have had a great deal of so called agricultural science, the tendency of which has been to discredit and bring into contempt all theoretical instruction.

Writers of this class should not be dealt too gently with, because, perchance, they mean well, and imagine they are doing the world service.—We cannot always call them truly pretenders, because, perhaps, they deceive themselves as well as others; but their blunders are nearly allied to crimes, and they should be, if possible, brought to a proper sense of their shortcomings. The only complete remedy for the evil is in such diffusion of general, and thorough, instruction of farmers, in the principles of agricultural science, that the class of writers alluded to will realize that their occupation is gone. There is a real desire for such information now which gives importance to any one who professes to be able to impart it. When farmers are better instructed, such teachers will find their proper level in popular estimation, as they now have it only in the opinion of the few who can criticise their productions.

We will illustrate what we say by noticing a few instances from a writer standing even above the class alluded to.

"It is the ammonia," he says, "that escapes from putrefying substances that causes their offensive smell." How many ignorant, or even careless readers, would accept this for a truth.—Ammonia is indeed generated in the putrefaction of animal substances, but in the odor perceived it is mixed up with others which disgust us—the compounds of carbon, phosphorus and sulphur. That ammonia of itself is not offensive we may readily understand if we are familiar with the use of the smelling bottle, which a lady finds both pleasant and refreshing. There is nothing at all offensive in it.

An evil consequence from this error is, that the farmer who accepts it for truth is troubled with the thought that he is suffering serious loss of the most valuable element of his stable manures whenever he perceives this odor. He resorts to methods and practices which, to say the least, are unnecessary, in order to protect himself against a loss which is little more than imaginary. In the fresh manure of the stables, where this odor is strongest, there is really little free ammonia, though that little may be distinctly perceived.—Yet it was the fear of losing ammonia which has, through so many years, impressed practical men with the idea that they must bury such manures in the soil at the earliest possible time. Intelligent observers have more recently raised themselves above the influence of the old theory, and in defiance of it put their stable manures on the surface.

The same idea that the odor arising from Peruvian guano, even when perfectly dry, indicated the waste of ammonia continually going on, induced an intelligent gentleman to put his guano bags carefully under cover, and then to cover them up entirely with sulphate of lime. He acted under the influence of two errors; one that perfectly dry guano is losing largely of ammonia, and the other that sulphate of lime any more than other dry earth would have protected it from waste.

Again this writer says: "It is the ammonia in rain water that imparts to it its peculiar softness in washing the hands or clothes." It is true that rain water contains more or less ammonia, but that it makes it what is called "soft" may be questioned. In that case cold water should be softer than hot, because it absorbs ammonia when cold, which is driven off by heat. Yet we find hot water always preferred for washing. The "hardness" of water is caused, in fact, by some of the salts of lime or iron, which it dissolves from the soil it passes through, and rain water is soft because it contains none of these.

The use of charcoal is recommended, and its value explained thus: "It will absorb ninety times its bulk of ammonia, and will give it out slowly to the vital attraction of the roots of plants." This would seem to give this substance a much higher value as a fertilizer than it has ever had the credit of. The "vital attraction" spoken of will not reach beyond the points of contact of the roots, and the ammonia shut up in the pores of the charcoal will not be very available, perhaps, to the rootlets. Besides, it is only when dry that the charcoal absorbs ammo-

nia, and the advantage to growing plants would not extend beyond the supply absorbed before the charcoal was covered up in the soil. It is only when applied on the surface, where the "vital attraction" of the roots cannot affect it, that it is likely, we think, to be very beneficial. During dry weather, it will absorb ammonia from the atmosphere, which ammonia will be washed out and carried down to the roots of plants by the first rain that falls upon it; for water has a much stronger attraction for it than the charcoal has; again being dried in the sun, it goes through the same process. This is repeated as often as the charcoal is washed and thoroughly dried.

Another of the teachings of the same writer is, that the growth of wool is to be increased by "keeping the animal warm in winter, and stimulating with the elements of wool the organs which secrete the valuable covering of the sheep." There is no reason to doubt the economy of keeping the animals warm, so far as the consumption of food is concerned, yet it may well be doubted whether such treatment will tend to the increase of wool, if we consider nature's first intention in covering the animal with such a coat. It is to protect it against cold; and thickness and closeness of the covering, other things being equal, is likely to be proportioned to the degree of cold to which it is subjected. We know that other animals have their coats thickened up by the approach of cold weather, and that some degree of exposure in fall is deemed advisable to effect this purpose These facts seem to teach the very contrary of the writer's instruction that "the growth of wool is increased by keeping the animal warm."

Again, the same writer says: "The atmosphere and not the earth, is the great storehouse for the animal and vegetable food designed for immediate use." It might, perhaps, be quite as correct to class the constituents of plant food as atmospheric and earthy, as to call them organic and inorganic; and to say that a very large proportion of this food is atmospheric would be true enough. But the meaning of the writer, when he calls the atmosphere the "storehouse" of plant food "designated for immediate use," seems to be that they are furnished directly from the atmosphere with such elements as are not strictly earthy or mineral.—To admit this would oblige us to acknowledge that in our attempts at fertilizing the soil, or supplying food for plants, we need only supply the very small amount of mineral elements needed, and that as to the great bulk of plants, more than ninety per cent of the whole, they can furnish themselves at pleasure, without our help, directly from the great "storehouse," the atmosphere. We are not prepared to make such an acknowledgment.—*Weekly Sun.*

Theory of Land Drainage.

A plant, though spreading its roots to a certain distance all around it in the soil, is stationary, and must have its food brought to it. That is the first main fact on which the need depends for a current of water through the land. Water, a powerful solvent, brings substances out of the air which the plant requires as food, and these substances increase its powers as a solvent of other matters in the soil which the plant also needs as food. Moreover, water brings from the air materials of use in the soil in manufacturing food for the use of plants. On all these grounds, then, it is of importance that water should go through the soil after going through the air. It becomes laden with vegetable food by passing through the air, and it becomes still more laden with vegetable food by passing through the soil, till, when traversing the soil, it passes stationary roots, and enters them, and feeds the plants to which they belong. And there are special reasons why rain water should be induced to pass through the soil rather than lie stagnant on it.—In the latter case it is not only useless to the plant, but it is directly mischievous. By evaporation it cools the surface, whereas by percolation through the land it carries the warmer temperature of the surface into the subsoil; and of what value this is to the growth of crops may be gathered from the experience of the last autumn, which has been so productive of growth in our pastures to so unusually late a season—not so much from the increased temperature of the air during November and December, which has been only about two or three degrees above the average of the last thirty years, as from the increased temperature of the soil and subsoil at one and two feet deep, which has been five and six degrees above the average of the past thirteen years, during which observations have been made near London.

And not only is it of importance that the rain, by passing through the land, should carry the temperature of the surface, warmed by the direct rays of the sun, downwards, rather than, by evaporating from the surface, it should carry the heat away and cool the soil; but the percolation rather than the stagnation of the water is desirable, because in the one case air is made to permeate the land, in the other it is excluded.—The chemical changes which air produces on and in the soil are desirable, and result in the preparation of useful food for plants; while by its exclusion, substances of a poisonous nature, especially where iron and vegetable matter exist together in the soil, are formed.—*Morton's (Eng.) Farmer's Calendar.*

How to Make Thick Osage Orange Hedges.

It is very well known that the only difficulty about making good live fences is, that the tendency to grow thick at top and thin at bottom, is too strong to control without much labor and more skill. The whole object of intelligent trimming is to reverse this nature of things. The hedge is trimmed severely towards the top in June, just after the young shoots have grown, and before they have become woody, which somewhat weakens the upward growth; while the side shoots are encouraged to grow as strong as possible, without any, or very little trimming until the fall of the leaf, when pruning rather strengthens than weakens the subsequent vegetation.

While traveling westward recently, we met an intelligent western farmer who had found live fences "no humbug;" but rather an invaluable blessing to the prairie man. He spoke of his hedges, and those of his neighbors, who mostly followed his plan, as so thick and compact that a starved hog would hardly dare attempt to break through to a good feed of corn on the other side. He told us his plan. We have never seen any done after his system, but it is so reasonable, that we have full faith in the plan, and are sure our readers will find it to their interest to try what merit there may be in it.

The mode consists in nothing but this:—The hedge of course is cut down pretty low when first planted, and it shoots up, perhaps, two or three feet the first season. These are cut down to about nine inches the following winter; and the following spring they push forth numerously, and with great vigor. About June or July they are cut square off about eighteen or twenty inches from the ground, and the prunings raked up and placed along *on the middle of the squared top, along the whole line of the hedge.* Here they in time wither and die, and of course shade the leaves and buds immediately beneath, which weakens their strong upward tendency more than the pruning of the green shoots would do; and the shoots turn, as it is well known they will do, to the strongest point of light, which in this case will be the sides. *The whole course of the shoots will be, in fact, towards the sides,* just where we find the usual difficulty is to make them grow.

He did not explain to us in this way how the plan operated; the explanation is our own. All he vouched for was, that the hedges so treated were thick and bushy at the bottom, just where thick and bushy branches are most desirable to be,—and it is so much in accordance with what we know to be the result in similar cases, that, simple as the idea is, we felt we had gained a great amount of valuable information for our diary of that single day.

The square form of trimming is not continued beyond the first year's time; after that the hedge is gradually reduced to a sort of conical shape; but the trimmings are laid on for some years afterwards.—*Gardeners' Monthly.*

Clean Pigs and Dirty Pigs.

Pigs enjoy the reputation of having a real liking for dirt; and, certainly, the way in which they are kept on some farms would show that their owners are determined to give them ample opportunities for carrying out this liking. No notion can, however, be more erroneous than this, as none is certainly so productive of loss to the keeper. Let any one not convinced of this try the two modes of pig-keeping—the dirty and the clean—the food in both cases, and other general treatment, being the same; and the result will show him which of the two is the best in the end. A great deal depends upon the mode in which they are housed.

Mr. Raines, of Mills, adopts the following: A large out-house is inclosed at the sides, so as to be warm and dry. The floor is paved, and sprinkled over with burnt clay, and ashes obtained by burning weeds. In this the pigs are fed; while for resting and sleeping they have a compartment railed off at the other end, and which is amply provided with clean straw. In another case, the principle of box feeding has been applied; the pigs being kept in a pit, into which the manure from the horse, ox, or cow-stables, is put. The pigs tread this down, and enjoy themselves amazingly. In one case, where this plan has been adopted, the farmer states that his pigs "have given him a profit by their meat, and left the dung—as good as guano—for nothing." *Mark Lane Express.*

A Giant Radish.

The Pall Mall Gazette says: "The last new thing in vegetables is really quite a startling wonder. Think of a radish with seedpods about three feet long, and sometimes growing five or six inches in four-and-twenty hours. We can think of nothing like it except Jack's immortal beanstalk, which authentically described plant is nevertheless not spoken of as good to eat, whereas this radish is said to be as palateable as it is monstrous. The plant comes from Java, but we are told that it has been fairly tried in the open ground in England, and succeeds perfectly well. To add to its merits, its pods are ready for use in less than three months after the seed is sown."

The American Farmer.

Baltimore, August 1, 1866.

TERMS OF THE AMERICAN FARMER.

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PUBLISHED BY
WORTHINGTON & LEWIS.
Office, 52 S. Gay street,
Near Exchange Place.
BALTIMORE.

Old Friends to the Old "Farmer."

We cannot consume the space that would be occupied in making extracts from a tithe of the letters we are receiving from old friends. We select from the first that have come to hand, as showing the kindly feelings evoked by the re-appearance of *The Old Farmer*, after years of absence:

CULPEPPER C. H., VA., June 22.

"I can scarce find words to convey the heartfelt pleasure which I experienced on the receipt of "The American Farmer."

KINSTON, N. C., June 23.

"The "American Farmer" has come again to hand like an old friend. I had taken it a number of years before the war, and do not think I ever received a number, but was worth the price paid for the whole year."

EDGE HILL, AMHERST CO., VA., June 28.

"Most heartily did I welcome the old familiar "American Farmer" for July. Only one who, like myself, loves farming, and loves to read the "Old Pioneer" on that, and all other subjects on which it treats, can realize the loss I have sustained from its suspension. It has been my constant companion, ever since I began to farm, and I feel as if I could not do without it. At any rate, it is a luxury I do not intend to do without, for when I get too poor to pay for the "American Farmer," I will be too poor to farm."

ATHENS, GA., June 26.

"Allow me to congratulate you on the revival of the good old "American Farmer," and the excellent taste displayed in the number received."

CHARLESTON, S. C., June 25.

"To-day's mail brings to me the "American Farmer," a long absent friend. The "Old Pioneer" is indeed welcome. I will try and extend its circulation, for so valuable a work ought to receive the patronage of the entire country, and live forever"

COBHAM, ALBEMARLE CO., June 21.

"I can hardly find words to express the pleasure I received, when returning from the field last evening, I found upon my table a copy of the "American Farmer." I thank you most sincerely and heartily for your kind remembrance after so long a separation. I welcome "The Farmer" as an old, and *valued* friend. I send two dollars to pay for my yearly subscription, and the name of my friend and neighbor, ——, who wishes to become a subscriber. He will pay for his subscription in a few weeks, but if he cannot, *I will*."

SCOTTSVILLE, ALBEMARLE CO., June 24.

"I received to-day, with the greatest pleasure, my old friend, "The American Farmer." You don't know what pleasure it was to me, to see again the old familiar face of a friend of ten to fifteen years."

EUTAW, GREENE CO., ALA.

"I am glad to know that my much valued friend, "The American Farmer," is not dead, but has been only sleeping, to revive with more vigor and lustre. Of course, put me down as one of your subscribers and contributors.

"Do not let us talk of the past—it makes me sad. I was in the war, on battle fields, and in prison, and could many a tale unfold, that would bring tears of sorrow, and storms of wrath, but "*cui bono*,"—let these things sleep the sleep of death. Talk we now of soils, of animals, of crops, manures, machines, and scientific agriculture. Of the how to redeem the agriculture of the South, from the darkness that envelops it.—How to infuse new life and new ideas into Southern farmers.

"Industry, and personal knowledge, and attention to what goes on in field and stable, is what we want, coupled with draining, manuring, and circumscribing our ideas. We want men who cultivate their own land, to find out practically, that one acre, well drained, manured, and tilled, is worth five poorly managed, as is most Southern land now.

"I have beautiful steel ploughs, sulky cultivators, cotton planters, reaping machines, beautiful wagons, &c., and am working myself to death, on 600 acres poor land, showing, with eighteen full hands, what can be done; have 300 acres

corn and 300 of cotton, and it has rained so much, that I have to fight grass harder than I used to fight Yankees—but, thanks to machines, I shall be victor."

The following we can afford to give entire. It is rare to find so much said, in so few words:

ANCOLA P. O., LOUDON CO., VA., June 26.

Dear Sirs: The enclosed two dollars is for the "American Farmer." We are all ruined.

Your ob't servant, S. A. B.

LANCASTER C. H., VA., July 9, 1866.

Messrs. Worthington & Lewis:

Gentlemen: You cannot imagine my joy, when calling at the postoffice a few days since, I found, so unexpectedly, in my mail matter, the July number of "The American Farmer." It looked as natural and familiar as the face, and was as welcome as the visit, of an old familiar, and long absent friend. Indeed, I felt very much like I had once again met with a dear old friend, who used to visit my house monthly for years, in other and better days, so much to the delight of all the household, and now, after a long and painful separation, had come back, in order that we might talk of our mutual afflictions, and give mutual consolation.

Messrs. Editors, since we last met and conversed through the medium of your excellent periodical, what mighty changes have taken place, and what sad memories and recollections crowd in upon us, when we think of other and better days in the past! You say truly, in your leading editorial address to your "old friends," the last four years have been "sad and dreary to every human heart; ruinous, desolating, deathful." And well did you say, "We come again with the feelings of one who visits the house of mourning." Cruel war has spread mourning, desolation, and poverty, all over our once joyous, prosperous, and opulent, sunny South.

But we must not yield to despondency or despair. We must not fall prostrate upon the earth, like children bereft of their toys, and weep over their loss; but like *men*, we must rise superior to our adversity, and grappling giantlike with our troubles, we must with brave hearts and stalwart arms, address ourselves hopefully to the work of regaining our wasted fortunes—gathering up our wasted energies—developing the agricultural, mechanical, mineral, and commercial resources of our country, and building up the waste places.

There is no need for despondency, much less for despair. When the smoke of battle has passed away, and we calmly look among the smouldering ruins and debris, which war has made, to see what of value remains to us, we see that we not only have left to us our lands, (though some of them are ditched, fenceless, and houseless,) but we find something infinitely more valuable remains. We have saved our *honor*, our *self-respect*, and much of our *intelligence*, *virtue*, and *chivalry*, though much of these were lost in the gallant and noble dead sleeping in the soldier's grave on every battlefield. Let us then be hopeful and cheerful, for with such a *country* as ours, with such a people as ours, with industry and economy, we may yet make dear old Virginia the Eden of America.

I am convinced that we must rely mainly on the agricultural interest of the State and South, to restore it to prosperity, and even wealth.—Upon the success of the agricultural interest depends our future prosperity. Then let us devote ourselves to this interest with might and main. And what needs first to be done? With your correspondent of Alabama, Dr. Hinkley, I say, "We want *smaller* farms—less pride—fewer stores and clerks—more industry—more laborers;" and, I will add, more economy. We of Virginia, especially of tide-water Virginia, with which I am better acquainted, have always owned and worked too much land. The consequence has been that we have not been able to improve our lands, and have had to work a large surface to make, in many cases, the grain necessary for family consumption. This was a most natural, if not necessary, consequence of our former system of labor and domestic slavery. Many masters, having a large number of slaves which had descended to them by inheritance, prompted by a humanity and attachment for his servant, as one of his own household,—to which the abolitionist is wholly a stranger,—would neither sell nor hire out any portion of his slaves, and in order to give them all employment, as well as support, it seemed to be necessary to cultivate large surfaces. This was even then, I think, very impolitic; but under our present system of labor—if we can be said to have any system—it is tenfold more objectionable. Let the landholders reduce the size of their farms by selling off a portion, and by a proper system of cultivation and improvement, they will, in a short time, raise more produce, and make vastly more money, on a part, than they have been making on the whole.

Let us in other respects at once cheerfully adapt ourselves to the new state of things, and thus make a virtue of necessity. Our young men and young women must be more industrious and more economical. Hundreds and thousands of intelligent young men who are now opening a little country store at every cross-roads, or seeking employment as clerks, or agents, for almost anybody, or anything, in order to avoid the farm and

the field, ought instead to be engaged in the noble and ennobling work of tilling the ground—man's normal condition and employment, in his innocence and holiness, before the fall. The old theory that educated and scientific men are needed for the professions of law, medicine, &c., &c., but that education is not necessary in the farmer, ought long since to have been exploded. I hope yet to see the profession of farming take its appropriate and merited place—first and foremost of all the professions—and the most learned and scientific men of the country uniting and bending their energies, of mind and body, to bring this profession to its wonted perfection. It is for this, gentlemen, you are laboring, and I bid you God speed.

Another great mistake we of tide-water Virginia have made, and which we ought *now* to correct, is this: We have too much neglected the raising of the grasses, and consequently the improvement of our stock. Laboring under this great disadvantage myself at this time, and seeing my error, I now propose to turn my attention to growing grass and raising stock, in connection with the cereals; and I write now, Messrs. Editors, to you, to gain some information on these subjects. Will you in your next issue give your readers some information relative to the merits of the various grasses, such as timothy, red top, orchard grass, &c.; the best time for seeding, whether spring or fall; whether best to sow the grasses separately or mixed, and if mixed, how and in what proportions; the quantity to be sown to the acre, and the best mode of seeding and preparing the ground. Such information will be gladly received by a large number of your subscribers, I have no doubt.

I would like very much to purchase a young, thorough-bred bull, one or two years old, and would like to be advised as to the best breed, where such a bull can be had, and the probable cost.

Before closing, I comply with a general request you make of your correspondents, to give you information in regard to the crops in their respective localities. In this, and the adjoining counties, the corn crop is very backward, owing to the cool spring; but the stand, I think, is generally good, and if the season should prove long warm, and wet enough, good crops may yet be made. Quite a large surface has been planted in this valuable grain. The wheat crop, which has now all been harvested, may be regarded as a failure. Very little was sown; no guano or other fertilizer was used; it was badly killed out by the winter's severe frosts, and what little remained was seriously damaged by the rust. I am satisfied there has not been as much reaped in my county this year, as was sown in 1860. The oat crop, which is large, has been unusually promising; but lately it has been attacked with the rust, and the quantity as well as quality of this crop will, I think, be seriously affected. These are our principal crops in this region. Very little tobacco or hay is raised. Fruit is very scarce, of all kinds, being killed with late frosts.

But I will close this communication by saying, I have but little money to spend in my poverty, and must practice a rigid economy in its expenditure, and must see to it, that when it is spent, I get a "*quid pro quo;*" spend it first where it will pay best, and I therefore enclose two dollars, for one year's subscription to "The American Farmer," whose monthly visits we hail with delight.

Yours, &c., THOMAS S. DUNAWAY.

LINDEN, WESTMORELAND CO., VA.,
July 14, 1866.

To the Editor of the American Farmer:

I welcome the reappearance of the "American Farmer" as the return of an old friend after a long absence. Though not a very old man, I am old enough to have read with interest its first number, which appeared more than forty years ago, and took my first practical lesson in agriculture, by aiding a learned and intimate friend, who studied in its pages Cobbett and his ruta bagas, in thinning his first crop. Having just returned from school to spend a vacation, with my mind fully imbued with classical learning, its beautiful and appropriate motto singularly impressed me—and in all the eventful scenes through which I have since passed, as lawyer, politician, and private citizen, the inspiring sentiment, *O fortunatos nimium sua si bona norint Agricolas*, has not ceased to animate me.

I am glad to see that you propose to devote much attention to fruit growing. It will be a prevailing interest in Eastern Virginia in a few years. We need instruction as to the most economical and safest modes of planting and manuring large orchards. Another subject which greatly interests us, is the use of fertilizers. A writer quoted in your last paper, from the *Country Gentleman*, expresses the opinion that nine-tenths of the "specialties" are humbugs, as proved by actual experiment, and that Peruvian Guano is the only reliable bought manure. Will you be so good as to publish the entire article alluded to from the *Country Gentleman?* I incline to think this remark too sweeping, but it is a subject on which the farmers of Virginia anxiously desire correct information, and they rely upon the candor and impartiality of the agricultural press of Baltimore to furnish it. I have

now under careful experiment ten different fertilizers, of the result of which I propose to make an impartial report to the Agricultural Society of Virginia, with the view to test the important practical question, "will they pay?" I hope the result may be satisfactory, for no man of common sense can suppose it possible to cultivate profitably poor land with hired labor, and under our new system fertilizers must be used to a much greater extent than formerly. Fortunately, there are some things that will certainly *pay*—lime, clover, plaster, and domestic composts, and these the Virginia farmer can apply almost *ad libitum*. I do not concur in the opinion often expressed, that all the venders of fertilizers are cheats and imposters. I believe some of them at least, to be honest and patriotic men, and sincerely anxious to promote the interests of agriculture, and before condemning their compounds, we should give them a fair and impartial trial.

I may have occasion sometimes to express my views to the liberal minded business men of your city, on subjects equally interesting to them and the farmers, and for that purpose, with your permission, shall avail myself of your columns. But essays of a general nature, I shall feel constrained to communicate, in the first instance, to our "Virginia Farmer," which is struggling into existence under the editorship of one of our best citizens, and most zealous friends of agriculture.

Wishing you great success in your renewed enterprise, I remain very truly yours,

WILLOUGHBY NEWTON.

We need not assure Mr. Newton of the pleasure it will give us to hear from him often, on any topic of agricultural interest.—EDS. AM. FAR.

NORTH EAST, PA., July 14, 1866.

To the Editor of the American Farmer:

I am, by your politeness, in possession of the "American Farmer," July number, for which please accept my thanks; also please send me other numbers to the end of the year, when I hope to be able to remit my subscription. I regret I have not time to remark upon the contents of this issue, or at least to indicate my appreciation of the high character of your journal, as realized in this July number. I was much interested in what you said regarding the worn-out lands of Virginia. Such "worn-out" lands are common here; that is, a single crop of wheat, two crops of corn, and one of barley, wears out our soil in the same sense, compelling the use of manure, red clover, &c. to restore it, when it is found to be again "as good as new." The article on "Cultivation and manure as fertilizing agents" (to be continued), is a bid for many subscribers that cannot be resisted.

My time is almost wholly given to grape culture, and testing the different varieties for the production of American wines. It seems to me your section must be favorable for grape culture, or at least that portion of Maryland and Virginia along the sea-shore is capable of producing fine grapes.

I am glad to see that you are hopeful regarding the future of our common country. The wicked schemes of designing politicians have cost us much of treasure and blood—has covered all our territory with mourning and filled all the land with graves. May God have mercy upon us and grant that our brethren may never more strive together, but the rather that they may continually vie with each other "in every good word and work." WM. GRIFFITH.

What We May Live On.

Those who are standing face to face, with rinderpest in cattle, small-pox in sheep, and trichina in pigs and rabbits, are taking comfort from the example of Irish laborers, who live on next to nothing, as they say, not "smelling" meat, unless on some great festival, and yet being all the time "strong to labor."

E. Curling, Esq., seventeen years agent for the Devon estate, in Ireland, testifies as follows:—"There are six thousand, six hundred and eighty persons on the estate. They are energetic, moral, and well behaved. I do not remember a crime in seventeen years. They are a contented, grateful people—grateful even for fair play. Out of six hundred farmers, deduct fifty, and the rest do not see a wheaten loaf, or smell meat, except at Christmas and Easter. They have been brought up to this custom. One tenant on the Devon estate, I have seen sit down to potatoes, buttermilk, and Indian meal, who purchased at a recent sale £10,000 worth of land, and did not have to borrow a shilling to pay for it. I believe this to be the usual mode of living in Limerick."

Unhappily, too many in our own country have been brought to even a worse diet than this. Yet it is some comfort to know how we may dispense with meat, and many other things we have, in times past, thought necessaries, and still live and labor. A Confederate soldier says, a man may live on fifty dollars worth of food, at present prices, and be strong and healthy. That is his estimate of the yearly value of Confederate rations, which he worked and fought in, for four years, without failure of strength. Let all take heart, who find themselves reduced to short allowance in these times of taxes and troubles.

A Word for our Homes.

What we would now say of homes, is not of adorning and beautifying, but of having and holding them. A terrible and ruinous conflict of arms, spreading death and devastation in its path, has ceased. Men have returned to such homes as are left them, but thousands, inside, and outside, of the track of war, find a new struggle there awaiting them. They have saved their lives, now they must save their homes.—Death, indeed, has finished his harvest, but gaunt Poverty stands "armed at the door."

Those who have, for years, struggled under the loss of their slaves, the contributions to military necessities, and the burden of taxes, and the many who have come back, weary and worn with the long strife of arms, find themselves too ready, perhaps, to abandon further struggle; too much tempted by "a morsel of meat," offered by those who have prospered in their ruin, to barter their birthright in the fairest heritage of God's earth.

Is not this a danger worth grappling with?—Are not these homes worth struggling for? They stand not so grandly indeed as those of old England, amid their ancestral trees, but they are still Our Homes; the pleasant places of our childhood, where our fathers and mothers lived in all holy offices of Christian love and duty, where they died, and where we buried them; familiar scenes of the glad young lives of brothers and sisters; the green pastures, the still waters; all blossoms for beauty; bee and bird, and babbling brook for music; the brave old oak, whose hundred arms have tossed in, and defied a thousand storms; the moss-covered roof that sheltered us; the fire-side; the family altar;—what wealth of happy, holy, thoughts, cling and cluster about these dwelling places of the heart, our old Homes! Are they not worth the striving and struggling for? There is not a man's heart but would meet an armed enemy at the threshhold, and die there to defend, when the enemy takes another shape, is it manly to surrender them?

But laying aside sentiment, let us consider the material, money value, of these lands we seem too ready to sell. Taking all of Maryland, and the same area of Virginia, which we have now more particularly in mind, is there, any where, territory of equal extent, which compares favorably with it in value, when we take into consideration its temperate, genial, healthy climate, its fertile and easily cultivated soil, its facility of access to great and fast growing markets, its noble waters, its position in the very centre of civilization and Christian culture? Are there anywhere to be had, more suitable habitations for a Christian people? As they have been in the past, the best and the happiest, we believe that in the future, they are destined to be the most productive and prosperous homes of the country. We would not have them lost to their present possessors.—We would have the people of Maryland and Virginia of this day, to be the people of Maryland and Virginia still, they and their descendants forever.

Nor is it only that this people are kindred and friends, that we would have it so. On that account indeed we would urge them by every argument to hold on to their inheritance. There is even a higher reason for it than that; it is because of our deliberate opinion, that there is no where on the continent a people fitter to possess so fair a land. Nowhere a people, more refined, and cultivated, and true hearted; or more favored of God in the attributes and graces which should characterize His people.

We have not the same opinion of those who would buy them out. We think they are enemies of God's truth and of His people, and have the least claim, therefore, upon such homes.

But what is to be done? Some of our people are ruined, and must sell; and almost all are involved in greater or less embarrassment, under the loss of their slave property, burdensome taxes, and the complication of pecuniary difficulties peculiar to the present state of affairs. They have land, and almost nothing else. Money is wanted to settle up their affairs, and pay their debts.—Capital and enterprise are needed to develop the intrinsic value of their lands. Effective labor must be had, at reasonable prices. All these are common wants, and our people should make common cause in satisfying them.

That their lands must be divided, and, to a great extent, sold to outsiders, is very clear; but at how great a disadvantage do they sell, unless a special effort is made to advertise them well, and to have something like a due estimate of their worth presented to those who may want to buy. A very wise suggestion is made in one of the counties, to have landholders associate for the purpose of aiding one another in advertising their land. Such an association might do valuable service in kindred matters, and in giving mutual aid wherever needed.

The leading thought in such case should be, to have our people, in all possible cases, to keep their homes, and so much land as they can occupy and improve. They can hardly estimate too highly the value of these, when the remainder shall have been sold to men of means and enterprise, and when they themselves should have used liberally the means they may thus command,

to improve what is left them. They will find more than realized the story of the old Roman, who, as he gave each daughter a marriage portion of one acre, from his little estate of four, made what was left more productive than the whole.

But whatever value we may put upon these, let us not be tempted to hold the rest so high as to drive off purchasers. Let it be understood, that we mean to sell at what it will bring in a fair market, after having used diligently all proper means of making its value known.

We would not be understood in the remarks made in this connection, as seeking, in any degree, to cherish feelings of unkindness or prejudice against Northern people as such. To all who are willing to be with us and *of us*, we would hold out a hand of welcome. We want Northern capital, and energy, and stir, and such Northern men, as will mind their own business, and not interfere with ours. We would invite and induce such to come and occupy our spare lands. But the Yankee proper,—the peeping, prying, meddling Yankee, sniffling and canting, and preaching through his nose, we have no word for while he is away, but *Procul! O, Procul!* and when he comes, only cuffs and kicks, or, if need be, so much rope as was meted to old Brown. It would be the crowning triumph of this tribe, after robbing us of almost all else, to possess themselves of our Southern homes. To give them over to these, would be our lowest depth of humiliation.—Whether we are to escape this, is a question yet in the future. Let us, however, be cheerful and hopeful. Let us possess our souls in patience.—Let us believe surely that God still reigns, notwithstanding his present allowance of Stevens, and Sumner, and Beecher; and that what was said of old time, may shortly be said again: "I have seen the wicked in great power, and flourishing like a green bay tree. I passed by, and lo! he was not!"

Literary and Reformatory!—"There can be no doubt that swine are a *good gift*, but there is exceeding great doubt of their being *good to eat*. The Bible forbids their use, and in this thing, at least, the Jews are wise. But whatever Providence had in view in the gift of swine to man, the Lord used them as a receptacle for devils, at their (the devils') request. It is recorded that the whole herd ran down a steep place into the sea. We certainly cannot regard this circumstance as having any particular bearing upon the subject, but I cannot help considering it as remarkable that *swine* should be selected for the purpose, and selected in such a manner, with such a result."—*Ext. Correspondence of Country Gentleman.*

Horse-Shoeing.

The following valuable directions with reference to this important matter are sent us by a friend, who takes especial interest in all that concerns a good horse, and is, therefore, not willing to trust one in the hands of every smith who professes to be able to nail on a shoe. He gives his personal attention and directions always, and has thus, no doubt, saved many a good horse from lameness:

For the American Farmer.

Messrs. Editors:—Having raised a few, and owned a number of horses, in the last forty-five years, not one of which has ever suffered with corns or lameness, in any manner, by bad shoeing, I send you the directions which I always give the smith.

I take nature as my guide, and follow her, as near as possible. I do not allow the smith to take more off the hoof than would grow in the time the horse has had his shoes on. I do not allow him to pare the heels, but when he has finished the foot for the shoe, I allow him to rasp the heel gently. The shoe never should be put on so hot as to burn the hoof. The shoe on and the nails clinched, never permit the smith to file above the clinches of the nails; nature is not interfered with above the clinches, the friction of the sand and earth is doing all that is required, and any interference by the smith is unwise, for every time he files the hoof the wall of the hoof becomes thinner, and is less able to resist the concussion, the cause of so much lameness in horses. I frequently, during the winter season, if there is snow on the ground, take off my horses' shoes and drive them until they wear the foot to the natural shape. I have done the same in the city. When I find their feet sufficiently broken down, I have them shod, and the horse finds that he is much benefitted by it, and so will his master.

It is necessary to have the feet of city horses stuffed two or three times a week; it keeps the horn soft, and causes less jarring to the many delicate membranes of the foot. Anything that will keep the horn soft, answers the purpose. I use a mixture of one peck of cow manure, half peck of ashes, and about two table spoonfuls of salt, mixed together, which will last for some time, by adding each time it is used, water enough to make it of a consistence to adhere to the sole of the hoof. By filling up to the level of the shoe, it generally remains until the horse is used.

When I think my horses require shoeing, I have their feet stuffed two or three nights in succession before I send them to be shod, so as to make it easy for the smith to pare the feet.

Commissions.

Our friends have begun to send us orders for stock, fertilizers, &c., as formerly. We beg to say to them, that the proprietors of "The Farmer," do not propose to fill orders of this description. They call attention, however, to the advertisement of Mr. Edwin A. Lewis, who occupies our office, and who means to give his special attention to this business. We shall to afford him every facility, and give him all the assistance, in the way of information and advice, which our experience may enable us to do, and it is hardly necessary to say, that our friends and correspondents may rely, fully, on having their orders punctually and properly attended to.

Neither of the proprietors of "The Farmer" have any personal interest in this business, beyond their wish for Mr. Lewis' success, and their desire to see their friends faithfully served, in whatever they may entrust to him in the way of commissions.

Our Exchanges.

We are greatly gratified with the friendly and appreciative notices of the daily and weekly press, (the monthly we have not had time to hear from,) on the re-appearance of "The American Farmer." We should take pleasure, if space allowed, in transferring them all to our columns, to be pleasant reminders hereafter of the friendly spirit that meets us, on every hand. We give but a few brief extracts which will sufficiently indicate the character of the whole.

"That old and well known agricultural journal, "The American Farmer," has just been revived by its proprietors, Messrs. Worthington & Lewis. This favorite old friend of the farmers of Maryland, Virginia, and all the border, as well as Southern States, re-appears in handsome octavo form, with interesting and varied contents of most practical value, and particularly adapted to all the region indicated. We do not know when we have looked into an agricultural journal, that struck us as likely to be so useful, as this first number of the new series of 'The American Farmer,'" &c.—*Balt. Daily Sun.*

"Messrs. Worthington & Lewis have revived the well known and popular agricultural monthly, "The American Farmer." Its re-awakening is bright and cheerful. Its articles, both original and selected, show culture, and discrimination, and its claims to the recognition of the class whose interest it is designed to promote, are not likely to be forgotten."—*Balt. Daily Gazette.*

"The public will be delighted to greet once more the familiar face of "The American Farmer." ..... We trust its old and new friends will rally to the support of this admirable and time-honored agricultural journal."—*Balt. Eve. Transcript.*

"This, before the war, one of our standard agricultural magazines, has again made its appearance. ..... It shows added excellence, and is certainly a valuable publication of its kind."—*Balt. Daily Commercial.*

Like notices from our country friends in Maryland, Virginia, North Carolina, and other Southern States, meet us on all sides. Our acknowledgements are due to all, for their friendly offices.

For the American Farmer.

Profits of Sheep near Richmond, Va.

My flock of sheep, reduced to a score by "casualties of war," (eh?) have decided on positive and speedy "reconstruction," and encourage me to active exertion in the like direction. Seventeen ewes produced twenty-seven lambs, and the yield in wool, unwashed, of twenty sheep, was one hundred pounds. Such lambs as I sold, netted me $6.50 apiece in money, leaving me the heads, which make fine soup, and the pelts. F.

SHEEP STEALING.—"I can buy a pair of Cashmere goats, brought from the South by some of the "boys," who "confiscated" them. Can they be raised profitably? What is it safe to pay for them?"

The above extract is from a Northern agricultural paper. The English of it is, that a man calling himself a soldier, robbed some one of these goats, while in the United States service, and is not ashamed to offer them for sale; while another, who wishes to turn an honest (?) penny by the purchase, calls the thief, endearingly, one of "the boys," and uses falsely the honest word "confiscate," to cover up the rascality. A respectable editor, publishes the letter without reproof, and treats the writer with the civility due to a Christian or a gentleman!—ED. AM. FAR.

☞Our friends will please observe, that we have forwarded our July number to all old subscribers, and if any have failed to receive them, it is owing probably to some accident of the mail, or their change of office. It will be a great accommodation to us, if in all cases when they write, they will name distinctly their present postoffice, and if they have made any change in four years, their former one also.

☞Replies to several correspondents as to fertililizers, grasses, stock, &c., we are obliged to defer for next number.

Value of Fertilizers.

In the communication of Mr. Newton, allusion is made to an article taken from the "Country Gentleman, in our July number, which speaks of nine-tenths of "the specialties of the day in the shape of manure," as proved to be humbugs. It is not in our power just now to publish the additional article, as requested by Mr. N., in which, according to the writer, this is proved.—But it will be observed that the writer is in New York State, and it is not likely his proofs, whatever they may be worth, embrace other fertilizers than those offered in New York markets. We *know*, that if intended to include really "all," the remark of the writer is far too sweeping.—We have had quite a number of the Baltimore fertilizers brought under our immediate observation, and notwithstanding a good deal of prejudice against them to start with, and a very decided conviction of the great superiority of Peruvian guano to anything offered as a substitute for it, we are quite satisfied that there are some of them, in which the purchaser need not fear a failure to get the worth of his money. Men of intelligence and capital, have given their minds and their means to the subject of improving these fertilizers. They should know, and, we think do know, now, what our lands mainly need, and they have so much money in the business, that, even if they were disposed, they cannot well afford to sell a worthless article. Intelligent farmers should, however, continually test the value of these fertilizers, and make public report of them. We are glad to hear that one of so much experience, and ability to test them fairly, as Mr. Newton, has now ten sorts under trial. It will be a great additional stimulus to the utmost care in their manufacture, if it be found, that intelligent farmers, are taking notes of their value, and are determined to know whether they *will pay*.

Good Fruit.

In all this growing disposition we find now for fruit cultivation, let it be distinctly understood that what is wanted is *good* fruit. The public taste is being fast educated, and we find already that what is really good, never goes a begging in the market, but brings always a high and remunerating price. When the market is glutted, it is only with inferior sorts. As Mr. Webster said of the crowded profession of law, there is "room enough in the upper story." There is room enough always for good grapes, good strawberries, good blackberries, good fruits of every sort. Because the crowd in the lower story *will* produce only poor sorts, in a poor way, and because, as we remarked before, the public taste is fast improving. Thousands are looking for good fruit, who were formerly satisfied with what was very poor, and the taste for the good grows faster than the ability to produce it. Let any one but observe the extraordinary difference of price between the miserable little strawberries which overrun our markets, and the magnificent specimens of the finer sorts, which are cultivated with some degree of care.

Then, as to the manner of putting fruit into the market, much is to be learned. A great many of our fruit dealers do not yet understand the impression made upon the purchaser, by the exhibition of carelessness in putting up fruit, and presenting it for sale. A very successful grape grower, who, while he grows good grapes, takes special care to show them to the best advantage, says that no fruit pays, for a little extra attention to this point, better than the grape. "Good grapes," he says, "neatly packed in fancy paper pockets, will always sell at remunerative prices, however much the market may be glutted with fruits put up in a slovenly manner."

Bears Malice.—A former subscriber, somewhere north of us, does not mean to take "The Farmer," he says, because he remembers that somebody connected with it, wanted to "destroy the Government." This is not true. We never wanted to destroy or damage the Government, nor did we want the Government to damage or destroy anybody else. He judges, too, by our words of kindness to old friends, that we are still "of the same stripe." We are at least not of his stripe, if it be a black one, and can part company with him, with perfect equanimity.

Somebody else will please send us a respectable subscriber in his place.

☞ In sending "The Farmer" to all old subscribers, it was expected, of course, that there would be those who would not wish to renew their subscription. We have been more than gratified with the cordial reception it has met with. Of those who for any reason do not wish its continuance, we beg that they will notify us as promptly as possible, otherwise we shall continue to send them future numbers, awaiting their convenience for payment. We know that many of them need even this small accommodation.

☞ Correspondents whose communications are designed for publication, will oblige us by sending them early in the month. It is always an accommodation to have them some time in advance of the date of publication, and sometimes important.

The Supposed Exhaustion of the Soil by the Modern System of Agriculture.

BY PROFESSOR ANDERSON, EDINBURGH.

When the progress of any art is examined, and the successive steps by which the improvement of its practice is accomplished are carefully traced, its development is seldom found to be the simple and peaceful occupation of our fields It most generally involves, not merely a succession of conquests gained with greater or less difficulty, but a constant and watchful struggle to maintain the vantage-ground which has been attained.—Every difficulty which has been overcome carries new difficulties in its train, opens up new problems to be examined, and entails the more minute study of facts and phenomena, which in a less advanced state of knowledge may have appeared of little moment, but which acquire increased importance as a means of fortifying us in the position we have gained.

All this is very forcibly illustrated in the practice of agriculture, in which we may be said to maintain a constant struggle with nature, for we seek to obtain from the soil an amount of produce greater than it yields in its natural state; and when it has been brought into a condition in which this result is obtained, there is a constant tendency to revert to its original state, which must be resisted by artificial means; and this object is arrived at, not by forcing nature, or attempting to run counter to fixed and immutable laws by which the universe is governed, but by studying the principles on which their action depends, and thus learning how to modify the conditions under which they operate, so as to suit the ends we have in view. It is only in the later stages of agriculture, however, that this phase in its progress is arrived at, a great part of our practical knowledge being, in the first instance, acquired by purely empirical observations; and it is astonishing how much information can be, and has been, thus accumulated at a very early period; but there is a limit which cannot be passed, and after it has been reached, although the art may not stand still, its progress becomes exceedingly slow. Judging from the writings of the classical authors on agriculture, it would appear that the husbandmen of ancient Rome, nearly two thousand years ago, were well acquainted with all the important operations of agriculture, and their practice appears to have been little inferior to that in use throughout Europe seventy or eighty years since. In some respects, indeed, they were in advance of that period, for their manure-heaps were carefully attended to, and they drained their land; as a proof of which, it may be stated that the instructions given by Columella for making a covered drain with stones, might be transferred almost unaltered to any modern work on agriculture.

The reason why agriculture advanced so slowly after the time of the Romans, is due to the fact that they had nearly reached the limit which could be attained by merely empirical trials.—They had learned almost all that can be easily and quickly acquired in this way, and advanced to the point at which it became a very slow, laborious, and costly method of adding to our knowledge, and whence further progress can only be made by studying the cause of the phenomena with which we meet. Agriculture, therefore, stagnated for want of an explanation of the facts which had been observed; and we find that the commencement of its recent rapid progress was simultaneous with the development of those wonders of science which afford these explanations. So soon as we began to understand that the mechanical treatment of the soil acted by admitting the atmospheric oxygen to disintegrate it, and liberate its useful elements, a new stimulus was given to the contrivance of machinery by which these operations might be more effectually accomplished; and when it was further ascertained that a manure acted by supplying those substances which are indispensable to the plant and form its food, and when their nature had been explained, we were enabled to use many substances which empirical agriculture would never have employed; and the word manure, which was formerly synonymous with dung, acquired a new and much more extended signification. Up to a comparatively recent period, the views which were entertained, both by agriculturists and chemists, regarding the nature of the food of plants, were very indefinite and erroneous. It was universally supposed that their main nutriment consisted of the humus of the soil, which was believed to be directly absorbed and assimilated by the plant; and that their inorganic constituents were unimportant and altogether fortuitous, and existed in them only because they happened to be absorbed along with the humus. It is scarcely necessary to observe that this opinion is now no longer maintained, incontrovertible experiments having shown that plants can grow and reach maturity where they have been entirely deprived of humus, but that they cannot exist without an adequate supply of inorganic matters, ammonia, carbonic acid, and water. As the substances which the plant specially requires form a very minute fraction of the weight of the soil, the establishment of these facts has directed attention very prominently to the possibility of exhausting the supply

of them; and the question has been raised whether the system of cultivation now in use is calculated to prevent this exhaustion, or whether it may not ultimately impoverish the soil.

It is quite clear that this is a question of the most vital importance to the country at large; for if it can be shown that we are gradually reducing the fertility, the sooner a change is introduced the better. It may no doubt be alleged that, to a farmer, all this is a matter of no interest, because his connection with the soil is a terminable one, and his object is to obtain from it as much produce as he possibly can, irrespective of those who are to come after him. And it has been maintained that modern agriculture is actually founded on this principle; and that while we pride ourselves on the increased produce which we now obtain from the soil, we have forgotten that it is produced at the expense of future diminution of the crops, although sooner or later this fact will inevitably be brought home to us.—Modern agriculture, in fact, has been described as a system of spoliation, and the necessity for an immediate change been very strongly urged upon us.

It is my intention on the present occasion to consider how far these views are founded on fact; and the subject is one not unattended with difficulties, for it must be discussed in a broad spirit, and viewed, not in relation to a single field or farm, but to the general effect over the whole country.

In order that we may have definite data to go upon, let us in the first instance consider the cause of the exhaustion of a soil, and the different modes in which it may be brought about. It is to be observed, then, that all plants require for their growth an adequate supply of carbonic acid, ammonia, nitric acid, water, potash, soda, lime, magnesia, phosphoric acid, sulphuric acid, chlorine, and silicas, which are all indispensable, although some of them are required in larger quantities than others. They are divisable into two classes, one including the first four substances, which, being all either gaseous or volatile, are found not only in the soil, but in the atmosphere; the remainder are confined, at least in quantity, to the soil. These two great classes are usually distinguished as the organic and inorganic elements of the plant food, by which it is to be understood that the former, though they are in a chemical sense inorganic, are the source of the organic or combustible part of the plant, while the latter supply the constituents of the ash. They may also, however, and with more advantage, be described as the movable and the immovable elements of the plant; because the former, existing in the air, are conveyed backwards and forwards by the wind, while the latter, being fixed in the soil, cannot be removed and replaced by ordinary natural causes. It is sufficiently obvious that if a crop be grown for a succession of years, and be systematically removed from the soil, the quantity of these substances must be gradually diminished, and, if this course be persisted in, the soil must eventually become incapable of supporting the life of plants. The period at which this will occur must necessarily differ very greatly in different soils, and depend on the quantity of available plant-food which they contain. It is to be observed, also, that the exhaustion of the soil in such a case is not due to the deprivation of all the elements of plant-food, for the air, constantly shifting, is always prepared to yield a practically inexhaustible supply of the movable elements, so that the exhaustion must in all cases be due to the removal of the fixed or mineral substances; and, consequently, when it is wished to restore to the soil its power of supporting vegetation, it is not *necessary* to add to it all the elements of the plant, but it will suffice to give those which it cannot otherwise obtain—that is, the fixed substances—and leave it to depend entirely on the air for a supply of those which can be derived from it. We do not mean to discuss here the question whether this method would reproduce the highest degree of fertility, but only to point out that a soil thus treated would regain more or less completely the power of supporting plant-life, of which it would have been deprived by the supposed system of management.

In point of fact, then, the complete exhaustion of a soil in its natural state must always be due to the want of mineral matters, because practically, no method of treatment can deprive it of those which the air supplies. As far, also, as these matters are concerned, it must be obvious that they would rarely, if ever, be all exhausted simultaneously, but that, in general, some one substance being present in relatively small proportion, the soil becomes incapable of supporting the life of plants, when it is entirely withdrawn, although there may still be an abundant supply of all the others. If, for example, a soil contain a sufficient quantity of potash to yield, say, twenty full crops of wheat, and of the other constituents of that plant enough to yield forty crops, the excess of the latter will be unavailing, and the soil would be exhausted by twenty crops.—If now we added to such a soil a supply of potash, it would again become capable of producing a crop, and would go on doing so until some other substance had been entirely consumed,

when it also would have to be added; and so on until, all being removed, the soil would at length end in a complete infertility, which would only be retarded, and not prevented, by this mode of operation. To maintain during an unlimited series of years a uniform amount of produce, it would be necessary to add, year by year, a quantity of the elements of plant-food equal to that which the crop removes; and the necessity for doing this is so obvious that it cannot be controverted, and it may be safely asserted that it is a point on which all scientific and practical men are entirely at one.

This being the principle on which the exhaustion of the soil is to be avoided, we have only to carry it out a little further to draw the conclusion, that if we add to it a larger quantity of the elements of plant-food than is requisite to replace what has been removed, its productive capacity must be increased, and it will become capable of yielding a larger crop than it did in its original state. This is in fact the foundation of the use of manures, and if it were possible to carry out these theoretical principles in their integrity, the soil might be made to produce, during an unlimited succession of years, a crop greatly exceeding anything known in actual practice. Practically, however, there is a limit which cannot be exceeded, and this depends upon several circumstances. In the first place, the effect of a manure is not due to its composition alone, but is dependent, to no small extent, upon the different constituents existing in it in a state in which they are readily available to the plant. And in the second place, the composition of manures is not entirely under our control. Although farmyard manure, which is, and will always continue to be, the foundation of agricultural practice, is a mixture containing all the elements of plant-food, and generally in proportions not very far removed from those in which the plant requires them, yet it is impossible not to recognize the fact that differences occur in it, and that part of its constituents are not directly available to the plant, but only become so by virtue of certain changes which occur in it after it has been deposited in the soil, and do not necessarily proceed exactly as we could desire. It is a familiar fact that, owing to these decompositions proceeding in an imperfect manner, manure may, and often does, accumulate in the soil, and remains there in an inert and dormant condition. If from this or any other circumstance the supply of one or more of the substances required by the plant is deficient in the manure, then either the crop is thereby limited, or it is forced to derive the requisite supply of that substance from the natural resources of the soil itself In fact, a manure which is deficient in any one element of the crop, does not improve the soil; and though it may produce a greatly increased crop, its effect is merely temporary, and eventually it only causes its more rapid exhaustion. In the case of farmyard manure, which necessarily contains all the elements of plants, this is, of course, less likely to occur than in special manures containing only one or two of these substances. Thus, for example, the opposite effect would be conspicuously seen in the case of a soil manured during a series of years with a salt of ammonia. In that case, though the crop might be greatly increased in any one year, the total amount of produce would be no larger than it would have been without that addition, but it would have been obtained within a shorter period of time.

The general conclusion to which all these considerations lead is, that we can only maintain the fertility of the soil by returning to it all the substances which the crop removes, and that we can increase it by applying these in larger quantity; but when the mixture supplied is deficient in any one substance, it does not prevent, but hastens exhaustion.

It was formerly believed that another great source of the deterioration of the soil was to be found in the removal from it of the valuable matters in the drainage-water. But our increased knowledge of the properties of the soil, its power of withdrawing the most important constituents of plants from their watery solution, and the composition of the drainage-water, have shown that any loss accruing in this way is so small as to be quite unimportant. It appears from the analyses of drainage-water, and from knowing the quantity which passes off by the drains in the course of a year, that the maximum amount of potash thus removed does not exceed two or three pounds to the acre, and is often much less, and the quantity of ammonia is usually under a pound. On highly-manured lands there is sometimes a considerable loss of nitrogen in the form of nitric acid, but on ordinary soils this also appears to be inconsiderable. When it is borne in mind that one per cent of potash amounts on the acre of land to at least ten tons, it will be seen that the loss of two or three pounds does not merit notice, for it must be a very poor soil which does not contain from a quarter to a half per cent of any of the constituents of plants. So far, then, from there being any loss of those valuable matters which the plant requires, there is a conservative influence constantly at work, by which they are safely stored in the soil, and preserved for the use of the crop; and when its exhaustion takes place, it is never due to natural causes, but may be safely attributed to the injudicious method of cultivation to which it has been subjected.

Monthly Agricultural Report—Condition of the Crops Throughout the Country.

The monthly report of the Department of Agriculture is published. The apprehension of a scarcity of crops, which might threaten compulsory economy of consumption, or warrant extraordinary prices, are groundless. From an actual analysis of statistical returns, with due regard to the usual average product and present losses of each State, the prospect, on the 1st of June, was for seven-tenths of a crop. With favorable weather, and absence from casualties before harvesting, the indications point to three-fourths of an average. The total yield of wheat in Ohio and Indiana appears to have suffered most from winter-killing. A prospect for 34 per cent of a crop of winter wheat in Indiana is sufficiently discouraging. An increase of four-tenths of the average growth of spring wheat will afford some relief, and ought to bring up the average to half a crop. Ohio is reported at four-tenths for winter wheat, with two and a half-tenths more for spring wheat than usual. A very little better prospect for winter wheat than Indiana, and not quite so large an increase of spring wheat, will give about the same result—half an average crop. Illinois, now our greatest wheat-growing State, promises seven-tenths of a crop of winter wheat. As the spring wheat, which is the main dependence for a crop in portions of the State, is nearly as good as usual, at least three-fourths of a crop of that should be expected in this State.

In Wisconsin, the winter wheat is reported at six and one-third tenths with one and three-fourths more spring wheat than usual, which should secure three-fourths of an average crop for the State.

In Iowa, the appearance of winter wheat is nine-tenths; spring ten and three-fourths tenths; breadth of the latter sown twelve and one-eighth tenths. This should give at least an average crop for Iowa.

In Pennsylvania, the wheat crop is eight-tenths.

In New York, winter wheat eight and four-ninths tenths; spring wheat nine and three-fifths tenths, or about eight-tenths for the crop as a whole.

In Missouri, a prospect for a full crop of winter wheat is reported, with one-half tenth or five per cent more than the usual breadth of spring wheat, looking nearly as well as usual at this season of the year. Kentucky is reported at five and two-thirds of a tenth; Michigan, seven and a half of a tenth; Minnesota, ten and five-ninths of a tenth for winter wheat, and nine-tenths spring wheat; Kansas, fourteen and one-third of a tenth for winter, and twelve-tenths for spring wheat. In New-England, except in Massachusetts, a full growth of spring wheat is sown, looking better than an average in Maine, and a fraction lower than an average in the other States. Winter wheat, when it is grown at all, has suffered to the extent of one and two-tenths, and in Vermont and Connecticut three-tenths. N. Jersey is placed in the same list with N. York and Pennsylvania, at eight-tenths, and Delaware, Maryland and West Virginia will each average about six tenths. The section west of the Missouri, comprising Minnesota, Iowa, Missouri and Kansas, taken together, promises more than an average crop of wheat.

Winter Rye.—The winter rye shared the fate of the wheat, but in a less degree. The injury was greatest in Ohio, West Virginia, Maryland, Kentucky, Michigan, and Indiana. Delaware, Connecticut, Massachusetts, and Vermont, come next in order. Kansas, Nebraska, and Minnesota, are the only States above the average, while Missouri and New Hampshire are reported at ten-tenths.

Winter Barley.—Ohio promises little more than half a crop; Vermont and Illinois, six-tenths; and Connecticut, Iowa, and Illinois, eight-tenths; N. Hampshire and Massachusetts, ten-tenths; Kansas, thirteen-tenths; Nebraska, fifteen-tenths.—The spring barley, while varying in promise in different States, will average ten-tenths.

Oats.—The average of this crop is larger than usual in nearly all the States. The appearance of the crop is, in Indiana, 10; Illinois, 8½-10; Ohio and Michigan, 9-10; in other States, ranging from 9-10 to 13-10. Rhode Island, Kansas, and Nebraska, are above the average. The crop indicates an average yield.

Clover.—More clover was sown than usual, and it is reported in a full average condition. In Delaware and Missouri the appearance is worst,—though the increased acreage will make up the deficiency. Maryland, New Jersey, Massachusetts, New Hampshire, Illinois, and Kansas, fall a little below the average; Maine, thirteen and one-sixth of a tenth.

Pastures.—Returns have not been favorable for the dairy interest. A very general falling off is observed in the condition of pastures, except in the States beyond the Mississippi.

Maple Sugar and Molasses.—This product will average nine and three-quarters of a tenth; New Hampshire, Massachusetts, and Delaware, ten-tenths; the other New England States, nine and a quarter tenths; the Middle and Western States, from seven to nine-tenths.

Sheep.—Sheep took the field this spring in better condition than usual. In some places neglect and consequent disease and death, are reported, arising from a depreciation in prices of wool.

Fruit.—A medium crop of apples is indicated, though there is variation in the appearance in different localities. In New England and the extreme West, the prospect is better than usual; in the Central States, worse. Peaches have suffered from winter-killing generally. In Ohio, scarcely a third of a crop is expected; in New Jersey, less than half a crop; in Delaware and Maryland, about six-tenths. Pears will not prove an average crop.

A Vermont Cow.

We do not attach great importance to the accounts we often meet with of extraordinary crops or products. Very often they are mere extravagancies, and as often altogether exceptional; but when almost, or altogether, true, they are indications of what may be done, and, therefore, of what ought to be done in the direction to which they point.

Vermont, as the writer of the following says, is famous as the birth-place of big stories of "sheep, cattle, hogs, and horses," but which, he says, are all true. We remember many years ago, that a Mr. Barnum, of that State, claimed to have made a thousand bushels of potatoes on an acre. The statement was never denied, but no one, that we know of, has ever since made such a crop. Be this as it may, none of us make anything like maximum crops, of such things as we are most familiar with. Apart from the statements of results in the following, there are several suggestions worthy to be noted. We copy from the "Country Gentleman :"

"Mr. Scott said he first became satisfied that he could make as much butter from a cow in a warm stable in winter, as he could from the same cow in pasture in summer, and so had a cow 'come in' for the experiment. The first nine days she churned 23 pounds; 26 days filled a tub of 52 pounds, and sold in Boston for 75 cents per lb., making $39. From

Dec. 20, 1864, to April 20, 1865, 200 lbs. sold.....	$120.00
April 20 to August 20, 180 lbs.....	54.00
August 20 to September 20, 40 lbs.....	16 00
September 20 to October 20, 34 lbs.....	17.00
October 20 to November 20, 30 lbs.....	16.50
November 20 to December 20, 1865.....	11.00
Sum total for one full year, 504 lbs.....	$234.50

"She 'comes in' again April next. Last winter she was fed on hay *only*, cut in June, and again in August, which makes the hay as good as grass, and kept in a stable that does not freeze in the coldest nights, and so ventilated that I can keep it at an even temperature all the time. She was fed regularly, three times a day, what she would eat, and eat it *all* up; the hay was weighed, and did not vary one pound from 25 pounds per day. The next four months she run to grass, but did not make so much butter by five pounds per month, as when in the barn. In the fall she had three or four quarts pumkins cut up and fed in the morning, which I think adds some to the *quality*, but not to the *quantity*, of the milk.

"She is the common native stock, brindle, nine years old, and good size. The first year I owned her, I called her a very ordinary cow, indeed.—What she has gained is by the treatment. I milk her at 6 o'clock, night and morning, with very little variation, and she is watered in the shed night and morning, but stands in the stable day and night."

"After thus giving the particulars in regard to the cow, which I think worthy of full credence, he goes on to state the way he manages to have such good hay, by premising that "you can as well cut four tons of hay to the acre, per year, as two tons, as most do on their best land!" He says, for three years he has ploughed the land in the fall, spread on the manure and harrowed it in; then in the spring, as soon as the snow is off, sows on equal parts, by measure, of herds-grass and clover seed, at about the rate of one and a half bushels per acre; has cut the same the 3d of July, "and weighed the hay and got two tons per acre; mowed again the 7th September, and got a little over two tons. For two seasons since has done the same thing, with same success."

"Another experiment: I mowed off the grass on a piece of ground, the 15th of June, that cut about a half ton to the acre. Twenty-two square rods of it I turned over, spread on a coat of manure, harrowed it in, sowed on the seed and harrowed that in, picked up the stones, picked up the few loose sods, and packed them in the crevices, and then rolled it. This was the 20th of June. I cut the hay the 7th September, and got 700 lbs. of as good hay as ever grew out of the ground—at the rate of over two and a half tons per acre." He mentions another experiment similar, where he cut about one ton per acre, June 15th, and in just six weeks mowed over two tons per acre! He cuts the grass "just as the clover is beginning to blossom, and before the herds-grass puts out its heads," and in that way "doubles the quantity and quality of hay, and that doubles the quantity of butter," or flesh, if fed to fattening stock. He says, and mentions a pair of steers fed the same as the cow, that were sold at 23 months old, in Boston, for $220, when ordinary steers, same age, sold for less than one-half as much.

"He thinks "farming only in its infancy yet," and well he may if he thinks it possible for the rest of us to make the attainments he has.

"Is it possible for ordinary cows, which aver-

age about 175 lbs. butter per year to be so *treated* as to *triple* that product? I once bought a 5-year old cow in June, for $25, not considered equal to even an *ordinary*, in the *best* of the first season only giving about 15 lbs. of milk per day. She gained till 12 years old, equally good at 14 years, was milked till 18; for eight years she produced all the milk, cream and butter used or wanted in a family of eight persons. For curiosity, during one week, her milk was weighed, and averaged a fraction less than 44 lbs. per day. She was native breed, common size.

"Is there any kind of feed equal in value for growing, fattening, or milking stock, to early cut, well cured clover and herds-grass hay? Is there any better way of getting it than that described above, or is there any better way of applying manure?

"Is there any *conclusive* proof that any of the imported breeds of cattle are better for the *dairy* than our *native breed?*

"Is a *moderate* and *even* temperature for our stock in the winter, worth the effort for its attainment?

"Is *regularity* in milking and feeding of any consequence?

"Is 25 lbs. of hay per day a common amount for milch cows? RUSTICUS."

Marketing Grapes.

The question is often asked why certain lucky vineyard men receive from twenty to forty cents per pound for their entire crop, while others less favored are glad to accept eight, ten, or twelve cents? The answer must be, "Diligence is the mother of good luck." The best grape raisers, after they have selected the best sorts and the best soil, still give assiduous attention to three great points, viz:—1. Good and constant cultivation. 2. Careful and judicious pruning, and thinning out defective fruit. 3. Careful gathering and the most careful packing.

Among all our grape raisers, none, as far as we know, have been more successful than E. M. Bradley, of East Bloomfield. In answer to some inquiries, he has kindly furnished us the following statement of his management:

"Permit me here to say, that the *market value* of the grape is *more dependent* upon *judicious handling*, than that of any other fruit with which I am conversant. Whilst the grape is a fruit peculiarly constituted to endure almost an *unlimited amount of abuse* in handling, yet no other fruit so richly pays every iota of *care* that may be expended upon it. The most casual observer of our great fruit markets cannot but have noticed the wide range of prices, in all kinds of fruit, produced by a *difference* in *method* and *style* of handling. And no fruit with which I am acquainted, suffers more from neglect in growing and marketing, or more amply repays thorough husbandry.

"Thorough pulverization of the soil to a liberal depth *every week* during the *growing season* of the vine, a systematic thinning of fruit, and shoving off all superfluous growth, will secure a well matured crop of grapes. As soon as fully ripe, (not before,) the fruit should be carefully picked, and laid in shallow, well ventilated, drawers, carried to the packing house on a spring wagon, and placed in racks or cribs over registers so constructed as to afford plenty of fresh air, but not exposed to light, or artificial heat.—Here the fruit may remain for months in safety, and retain its plumpness and bloom perfectly.—When desirable to send to market, the drawers are taken from the rack in the store room, and placed upon the tables in the packing rooms, where the fruit is carefully assorted, all green berries and the superfluous stems removed, and packed closely in paper pockets or wooden boxes, and immediately shipped. The packing rooms should be well lighted.

"Small paper pockets, containing from one to three pounds, snugly packed in wooden cases, two dozen pockets in a case, are found to carry the fruit more safely to market than larger packages. The cases should be as nearly air-tight as possible. I have sent many tons, packed in this manner, to Charleston, S. C.; Nashville, Tenn.; Quincy, Bloomington, and Dubuque, on the Mississippi River, and many other towns, over equally hazardous routes, with entire safety.

"Good grapes, neatly packed in fancy paper pockets, will always sell at remunerative prices, however much the market may be *"glutted"* with fruit put up in a slovenly manner."—*Co. Gent.*

Preparation for Preserving Leather.

We translate from the "Gerber Courier," a receipt for a preparation which is said to insure great durability to leather, and to make it very pliable and soft. It consists of four articles, tallow, soap, rosin, and water, prepared as follows: Twenty-one parts of tallow are melted in a vessel, three parts of rosin added, and the two when melted mixed well together. In another vessel, seven parts of good washing soap are dissolved in seventy parts of pure rain water. After it is dissolved, and the mass heated to the boiling point, we add the part prepared before, let it boil once more gently, and the preparation is ready for use. It is especially adapted to boots, harness leather, and belting.—*Shoe and Leather Reporter.*

When to Cut Timothy.

"J. A.," McKean county, Pa., writes soundly: "One says 'cut timothy hay early,' and another says 'cut it late.' I have tried both ways, with working cattle and milch cows, and I value one ton of early hay above two tons of late cut hay. The stock eat the early cut hay clean, waste none, and thrive much better, and do a vast deal more work, than on late cut hay. If the season is favorable, I am generally nearly through haying when others commence. Late cut hay may last longer, and bass-wood chips would last longer still. This question would be settled forever, if men would try the experiment fairly."

GRAPE AND WINE INTERESTS.—Mr. Wm. Griffith, whose letter we publish on another page, is one of the most extensive and successful grape and wine producers in the country. He means to attend the Paris Exhibition in 1867, and will represent there the *Lake Shore Grape Growers' Association*, and desires specimens of wines made from native grapes, sent to him by those who may wish to have their products exhibited. He may be addressed, as will be seen, at North East, Pennsylvania.

NATIONAL EXHIBITION OF HORSES.—We acknowledge the receipt of an invitation to attend the National Exhibition of Horses, to take place at Kalamazoo, Michigan, beginning on the 2d, and ending on the 5th of October, 1866. The premium list is $6,000. The first trotting premium, $2000; the first running premium, $500; entrance free. The premiums embrace every description of horse. Hon. C. E. Stuart, President of the Association, and Geo. F. Kidder, Secretary.

COWS' TAILS.—A correspondent of an agricultural journal says he has seen several dairies of cows with short tails. He "likes the style, and wishes to relieve some five or six cows of their troublesome switches."

Can it be that there are dairies of cows with short tails, and can it be that anybody "likes the style?"—[ED. AM. FARMER.

NATURE'S BEE BOOK.—We have received a copy of this little treatise on bee management, from the author, W. A. Flanders, Shelby, Ohio. It is designed, he says, as a directory, to aid, to explain, and accompany his improvement in bee culture. See advertisement.

LOSS OF SHEEP.—It is estimated by the "Ohio Farmer" that the loss of sheep in the State of Ohio, by a cold rain and storm, occurring a few days after shearing, was not less than one hunhundred thousand.

Butter Making in Devonshire.

[Extract from a letter of Cuthbert W. Johnson to the "Mark Lane Express."]

"Cows are milked twice a day, morning and evening, and the milk strained into the milk-pans, which are generally made of tin, and should not be too deep, or the milk will not cool quickly.—Early the next morning, (as soon as the fire has attained a sufficient heat,) the milk is placed on the stove or steam apparatus, to be scalded, beginning with the previous morning's milk until all is scalded. There should be from 12 to 15 pints in a pan, and, with a proper heat, it will take from twenty minutes to half an hour to scald. When it is sufficiently scalded you will see the cream look rough, and a ring or mark will appear on the surface, just the size of the bottom of the pan. After scalding, the milk is placed in the dairy to cool, and on the following morning the cream is taken up from each pan with a skimmer, and placed in a large basin, where it remains until it is removed into the tub, to be made into butter. In the summer butter must be made every day; in the winter three times a week will be sufficient. When you make butter you must pour off any clear or thin cream there may be in the bottom of the basin, and then put the thick cream into your butter tub; stir it with your hand or with a stick round the tub, all one way, until it becomes a very thick substance; continue turning it until you see milk coming from it, then pour off the buttermilk and wash well the butter with cold spring water until there is no milk left in it, and the water is quite clear; then add a little fine salt to make it a proper saltness, wash it again, and continue working it with the hand or stick, as may be, until you cannot get a drop of water from it; then weigh the butter and make it up into pounds.—If this plan is strictly followed your butter cannot fail to be excellent. In very hot weather the morning's meal of milk must be scalded in the afternoon, and the evening's meal early the following morning, to keep it sweet. The stick used in our dairy, and which is preferable in every respect to the hand, is formed like a small spud, with the handle about 12 inches long.—When the red earthenware pans are used for the milk, it takes nearly an hour to scald each pan. We consider tin pans preferable, for two reasons: first, economy of time in the dairy work; second, the milk in hot weather is less likely to turn sour when quickly scalded."

If you would build high and firm, dig low in humility, in meekness, and in forgiveness, for a foundation; and your roof shall reach the heavens.

☞Our usual page of Sunday Reading, and notices of several Tournaments that have taken place in Maryland and Virginia since our last issue, as well as several advertisements, coming too late, are crowded out of this number.

Baltimore Markets, July 20.

ASHES.—Pot, $8.25a$8 37½; Pearl, $15 50 per 100 lbs.

COFFEE.—Rio, 16¼ to 18½c. gold, according to quality. Laguayra 18, and Java 26 cts.

COTTON.—We quote prices as follows, viz:

Grades.	*Upland.*	*Orleans.*
Ordinary	28a29	30
Good do	30a31	32
Low Middling	33	33
Middling	35a37	38

FERTILIZERS.—Peruvian Guano, $100 pr ton. All manipulated articles remain as last quoted, viz: Patapsco Company's Ammoniated Soluble Phosphate, $63, in bags or bbls.; Rhodes' Standard Manure, $55 in bbls., $57.50 in bags; Baugh's Rawbone Phosphate, $55; Turner's Excelsior, $80; Ammoniated Phosph., $60; Dissolved Bone, $55; Fine Ground do., $45; Baltimore Phosphate, $60; Solu. Pacific Guano and Flour of Bones, $65; Snowden's Potash Fertilizer, $45; Patton's Rawbone Phosphate, $55; Zell's Rawbone Phosphate, $55; do. Super-Phosphate of Lime, $65 per ton in bags; Fowle, Bayne & Co.'s Manipulated Guano, $75; do. Ammoniated Phosphate, $55; do. Compound of Phosphate, $45—all per 2000 lbs.; do. Plaster and Potash, $4.50 per bbl.

FISH.—*Mackerel.*—No. 1, $19.50n20; No. 2, $18a18.50; large new, No. 3, $14a15.00. *Herrings*—Shore (split.) $5a6; Labrador, $7a7.50; Potomac and Susqueh'na, $8.50 a9. Codfish, new, $4a5.

FLOUR.—Howard Street Super and Cut Extra, $9.75a $10.25; Family, $14.50a15.50; City Mills Super, $9.25a 10; Baltimore Family, $16.

Rye Flour and Corn Meal.—Rye Flour, new, $5.75a6. Corn Meal, $4.75a5.

GRAIN.—*Wheat.*—Inferior to fair Red. $2 a2 55; prime to choice Maryland, $2.60a2.75. White, $2 65a2.85 per bus.

Corn.—White, $1.12a1.16; Yellow, 94a96c. per bushel.

Rye.—Small offerings. Held at $1 10 per bushel for prime Maryland.

Oats—Heavy to light—ranging as to character from 55 a70c. per bushel.

HAY AND STRAW.—Timothy $22a25, and Rye Straw $18 a20 per ton.

MILL FEED.—Brownstuffs, 16a20c.; Middlings, 30a35c.

BEANS.—Common, $1.50a1.75; prime New York State, $2.50a2.75 per bushel.

POTATOES.—In good supply. New, $2a2.25 per bbl., for Maine and Peach Blows.

PROVISIONS.—*Bacon.*—Shoulders, 17¼a17¾ c.; Sides, 20¼a20¾c; Hams, plain bagged, 23c.; sugar cured, 24a 25c. per lb.; compressed 26 cts. *Bulk Meat.*—Shoulders, 16¼c; Short Middles, 18c.

SALT.—Liverpool Ground Alum, $2.15a2.25; Fine, $3a 3.40; Turk's Island, 60c. per bus. Rock, $30 per ton.

SEEDS.—Clover, held at $7.50a7.75; Timothy, $7.50a8; Flaxseed, $3 15a3.30.

TOBACCO.—Market quiet. We give the range of prices as follows:

Maryland.	
Frosted to common	$2.50a 4.00
Sound common	4.50a 6.00
Middling	6.50a 9.50
Good to fine brown	10 00a15.00
Fancy	17.00a25.00
Upper country	3.00a30.00
Ground leaves, new	3.00a12.00
Ohio.	
Inferior to good common	5.00a 8.00
Brown and spangled	9.00a12.50
Good and fine red and spangled	14.00a17.00
Fine yellow and fancy	20.00a30.00

WHISKEY—$2.26a2.27 per gallon, in barrels.

WOOL.—We quote: Unwashed, 33a35 cts. per lb.; Tub-washed, 48a55; cts.; Fleece, common, 43a45 cts.; Fine, 50 a55 cents; Pulled, No. 1, 32a36 cts.; Merino Pulled, 42a46 cents per lb.

CATTLE MARKET.—Common, $6 50a7; Fair, $7.50a8; Prime Beeves, $9 per 100 lbs.

Sheep—4¼a6 cents per lb. gross.

Hogs—$13.25a14.50 per 100 lbs., net.

Wholesale Produce Market.

Prepared for the American Farmer by ELLICOTT & HEWES, *Produce and Commission Merchants, 67 Exchange Place.*

BALTIMORE, July 21, 1866.

BUTTER.—Ohio, in brls. and kegs, 26 cts.; Roll. 28 cts.; Virginia and Pennsylvania in kegs and tubs, 25 to 30; Glades, 35; Goshen, 40.

BEESWAX—37 cts.

BUCKWHEAT—for seed, $2¼.

CHEESE.—Eastern, 22; Western, 18.

DRIED FRUIT.—Out of season.

EGGS—18 cents per dozen for selected.

FEATHERS—70 cents for good Southern.

LARD.—Brls 22, kegs 23, jars and other country packages 25 cents.

TALLOW—11½ cents.

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Office of General Agency of Soluble Pacific Guano Co.

JOHN S. REESE & CO.,

71 South street, Baltimore, General Agents.

Your attention is invited to the annexed reports of inspection analysis of six cargoes of PACIFIC GUANO, (embracing last arrivals,) consigned to this Agency, and discharged at our wharf.

The samples were taken from *commercial packages as discharged*, by the chemists, and hence represent the Guano as actually *brought into market.*

The importance of this branch of trade to the agriculture of the country, demands that it should be placed on a basis above *adventurous enterprise.* To promote this object, consumers should require regular inspection analysis, by competent and responsible chemists, who are known to the public—the samples to be taken from *trade packages* by the same, and duly certified. Until manufacturers and agents are required by public sentiment to do this, both the legitimate trade and consumers are exposed to imposition. Incidental analysis of samples handed to chemists, and the result published, amount to but little. That analysis only is valuable to the public which represents actual *cargoes in packages for market.*

With a view to place the trade on a basis commensurate with its public importance, the PACIFIC GUANO COMPANY, at heavy expense, instruct us to have every cargo of their Guano duly inspected, upon arrival. The results of late arrivals are herewith given, with names of vessels, and chemists by whom the inspection was made.

Intelligent merchants, farmers, and planters, will at once perceive the superior value of this Guano.

The elements here given are those which alone constitute the value of all Guano and other fertilizers.

Having no data from which to make comparison, we can only assert from a general knowledge of the composition of most articles offered in our markets, and from a knowledge of the source and cost of raw material, that there are none with which we are acquainted that can compare in value with SOLUBLE PACIFIC GUANO; and although it commands a higher price, it is cheaper by 20 to 30 per cent.; in evidence of which we recommend 20 per cent. less by *weight* to be used per acre than of any other fertilizer, sold at less or the same price per ton, and no more per acre than those selling at 20 to 40 per cent more per ton, not excepting *Peruvian Guano.*

Inspection analysis of six cargoes of Soluble Pacific Guano, made for JOHN S. REESE & CO.

Names of cargoes.	Per-cent. animal matter.	Per-cent. Ammonia yielded.	Per-cent. of Bone Phosphate soluble.	Per-cent. Bone Phosphate of Lime.	By whom inspected.
Sch. Lacon	41.24	3.40	17.07	24.32	Dr. Liebig.
Sch. Paladium	39.71	3.65	15.76	24.71	Dr. Liebig.
Sch. Fly-away	35.11	3.52	12.90	28.40	Dr. Liebig.
Sch. Ira Laffrenier	37.83	3.41	15.10	24.51	Dr. Piggot.
Sch. Clara W. Elwell	40.55	3.63	15.19	28.75	Dr. Piggot.
Sch. Mary E. Amsden	38.94	3.21	14.79	28.08	Dr. Piggot.
Average of six cargoes	38.90	3.47	15.13	26.46	

The original of above may be seen in manuscript at our office.

Baltimore, 1866. JOHN S. REESE & CO.

NOTE.—Pacific Guano weighs 65 lbs. per bushel, which is 15 to 20 per cent. less than the Super-Phosphates of Lime, hence in its application farmers must not estimate quantity by *bulk*, but by weight, else they will apply less per acre than is intended. J. S. R. & CO.

FLOUR OF BONE.

We will give a money guarantee of the purity of this article. It is *unsteamed, unburned bone*, reduced to the fineness of *flour.*

One hundred pounds contains thirty-three pounds of *animal matter*, and *yields four and a half pounds actual ammonia*, which is all that pertains to *raw* bone.

Bones subjected to *steam pressure lose* a large part of their *animal matter*, and hence their value is *greatly impaired.* When steamed, they can be made tolerably fine by ordinary means. They may be detected by their peculiar white appearance, and the absence of *odor. Bone Flour* burns with a quick blaze when thrown on a fire; not so with *steamed bone.* These are important facts for farmers.

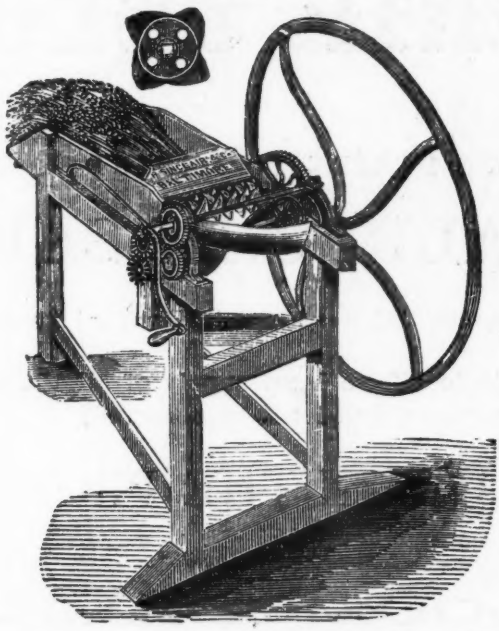
One hundred pounds of Flour of Bone contains the value of one hundred and fifty pounds of *acid dissolved bone*, or Super-Phosphate, because *one-third* of properly dissolved bone is acid and water. *Flour of Bone* is as quick and active as Super-Phosphate or dissolved bone, and is consequently worth at least 25 per cent. more per ton. We recommend two hundred and fifty pounds per acre, where *three hundred pounds Super-Phosphate* or dissolved bone would be applied. The manufacturers are the patentees of the only known machinery by which raw bone can be reduced to the fineness of flour.

JOHN S. REESE & CO.,
Sole Agents for the Company,
71 SOUTH STREET, BALTIMORE.

Terms Cash. [july-tf]

SINCLAIR & CO.'S

PATENT SCREW PROPELLER



HAY AND STRAW CUTTER.

The above cut represents the PATENT SCREW PROPELLER HAY AND STRAW CUTTER. *The Cylindrical* Straw Cutter, although invented over thirty years ago, still retains its high reputation for efficacy and durability.

With the present feed roller (screw or spiral) the article is greatly improved, and rendered more simple. ALL efforts of inventors that have been made, in EUROPE or in the UNITED STATES, towards improving or inventing STRAW CUTTERS, have failed to produce a machine of equal perfection as our Patent Propeller.

We could (if necessary) produce thousands of certificates from our Southern and Southwestern farmers and planters, to show that the Propeller is undoubtedly the most perfect cutter they had ever used. And of late years, wherever our Propeller has been introduced in the Western or Northern markets, they have always been sought after by the intelligent farmer.

We make five sizes of the above cutter, viz:—8-inch, 9-inch, 11-inch, 13-inch, and 15-inch.

We also make an 8-inch with three knives, at a charge of $2 additional over the two-knife cutter of the same size.

The three first sizes are operated by hand, and the two large sizes by horse power.

We also make four sizes of our PATENT MASTICATOR, which is considered the best machine of the kind in this country.

R. SINCLAIR & CO.,

ang 58, 60 and 62 LIGHT STREET, BALTIMORE, MD.

TURNIP SEEDS.

WE DESIRE TO REMIND

☞DEALERS IN SEEDS

Of the near approach of the season for sowing Turnip and Ruta Baga.

We shall be able to offer a large supply of all the approved varieties, and let it be observed,

EVERY GRAIN THE PRODUCT

OF

BLOOMSDALE.

We have not in store, and shall not have an ounce of imported Seed.

OUR TURNIP SEED CIRCULAR,

With particulars of interest to those who deal in

SEEDS,

ISSUED MAY 25th, WILL BE MAILED TO ALL DEALERS WHO APPLY.

☞ Planters, Farmers, and private families generally, are invited to supply themselves at the stores of our wholesale customers. When their residence is remote from such, supplies may be had by mail or express.

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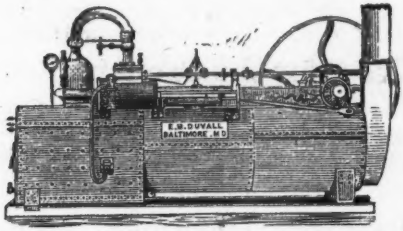
Nos. 21 and 23 South Sixth street,
aug **PHILADELPHIA.**

E. B. DUVALL & CO.,

E. B. DUVALL. E. B. DUVALL, Jr. H. WADLEIGH. J. WILLIAMS.



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FOR FALL, 1866.

We respectfully invite attention of our customers to our stock for the coming season, superior in both variety and quality to any we have heretofore offered:

Standard Trees for the Orchard,
Dwarf Trees for the Garden,
Small Fruits of all kinds,
Shade Trees, of the most desirable varieties,
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York, Pennsylvania.

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1,000,000 Strawberry Plants, for the Fall of 1866.

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Grown from young vigorous plants, with the cleanest and most careful culture, and on soil particularly favorable to the Strawberry, and are prepaid to supply the AMATEUR as well as the MARKET GARDENER, with the *best* plants of the *best* kinds.

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AGRICULTURIST AND RUSSELL'S PROLIFIC.—Two of the largest, most productive, and valuable new American varieties.

LENING'S WHITE.—A most excellent light berry, of the highest promise.

JUCUNDA, OR KNOX'S 700.—Now commanding such a large share of public attention, which for beauty, size, productiveness, and superior quality, will doubtless rank among *the best* of Strawberries.

And a choice collection of other well known kinds.

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Large orders forwarded promptly by Express or Railroad.

Descriptive Priced Catalogues mailed to any any address.

EDW'D J. EVANS & CO.,
York, Pennsylvania.

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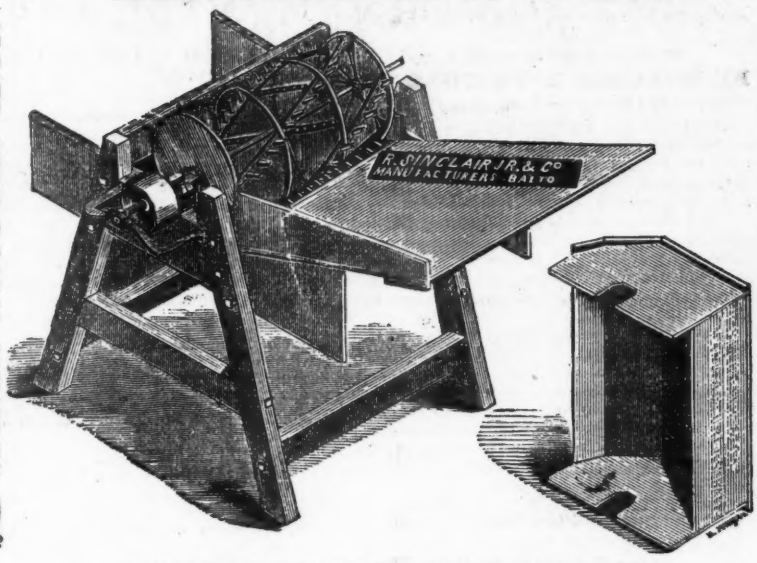
SINCLAIR & CO'S

SPIRAL WROUGHT IRON



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MADE EITHER WITH OR WITHOUT STRAW CARRIERS.

The latest improvement, and the most valuable made in our Thrashing Machine Cylinders, is the plan of attaching spiral wrought iron bars, instead of the ordinary horizontal arrangement.

There is an obvious reduction of draught; the cylinder receives the wheat faster, consequently will thrash with greater rapidity. The teeth passing those in the concave alternately, produces less noise or surge, so objectionable to straight beater cylinders; causes less wear on the boxes and axle and less risk of derangement.

We make four sizes of the above, viz: 16 inch, 20 inch, 25 inch and 30 inch, with and without straw carriers.

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PELTON'S CELEBRATED PORTABLE HORSE POWERS,

Namely: 4 horse, 6 or 8 horse, and 10 horse.

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With and without Cleaner. HAND AND POWER SHELLERS, all sizes.

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All other expenses, including Board, Fuel, Lights, &c., need not exceed..... 250

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July 4, 1866. aug-tf

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WORKER.

Bred from our late importation from Italy, by us, on Kelley's Island, Lake Erie, (12 miles from the main land,) where no native Bees exist. We sell

WARRANTED QUEENS CHEAP.

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Address W. A. FLANDERS & CO.,
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AT MANUFACTURERS' PRICES.

These are the best Drills throughout that are now made in the world. Cash prices: Drills delivered on boat or cars at Baltimore, 7 tube, compost attachment, $120; 8 tube, compost attachment, $125; 9 tube, compost attachment, $130 The Grass Seeder attachment is $10 additional to all sizes. GRAIN DRILLS, without compost and Grass Seeder attachments, is, for 7 tube, $80; for 8 tube, $85, and for 9 tube, $90. All orders filled promptly. For sale by

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Second hand STATIONARY ENGINES and BOILERS For Sale.

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The Site, comprising fifteen acres, and commanding an extensive and delightful prospect, was selected especially on account of its ample play-grounds, which, while in view from the Hall, are secluded from public observation, and are admirably adapted to all kinds of summer and winter sports for boys, including bathing and skating.

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To such young men as may desire to pursue a more extended course, an opportunity will be given to prepare for an advanced class in college, or to continue their scientific studies and the application of Mathematics to Civil Engineering, Navigation and Astronomy.

Teachers.—The Rector has been engaged in the South for more than twenty years, in the work of education. He will be aided by Professors and teachers of acknowledged ability and experience.

Care of Pupils.—The domestic arrangements will be under the charge of Mrs. Shepherd, and every effort will be made to surround the pupils with the comforts of home. They will occupy, with their teachers, the same building with the Rector, and be regarded as members of his family. Strict attention will be given to their health, exercise and personal habits, and also to the cultivation of courteous manners, as a highly essential part of education. Their moral and religious training will be made an object of especial care.

The Religious Exercises of the school will be in accordance with the services of the Protestant Episcopal Church.

Reports of the Studies, deportment and progress of the pupils will be regularly sent to parents and guardians.

Requirements.—Pupils will bring towels, napkins and rings, dressing gown and slippers. Clothing, and all other articles, must be distinctly marked with the name in full. A neat and appropriate uniform will be introduced.

The Session this year (1866) will open by the middle of September, and continue until the end of the following June.

TERMS,

Per Session of Ten Months—one-half in advance, the remainder Feb. 1.

Board and tuition in the English and Classical course.....$350.00
Modern Languages, Drawing, Instrumental Music, at Professor's charges.
Bedding $25, (to be paid but once.) When furnished by the pupil, no charge.
Pew rent..... 3.00
Books and Stationery, if desired, will be furnished at city prices

Pupils will be charged from the date of entering until the end of the session in June. No deduction will be made on account of absence or withdrawal.

THERE WILL BE NO EXTRA CHARGES.

☞ List of references appear in July No. of the American Farmer. aug

POOLE & HUNT,

BALTIMORE,

MANUFACTURERS OF

Portable and Stationary Steam Engines and Boilers,

STEAM FIRE ENGINES,

LEFFEL'S PATENT AMERICAN

Double Turbine Water-Wheel,

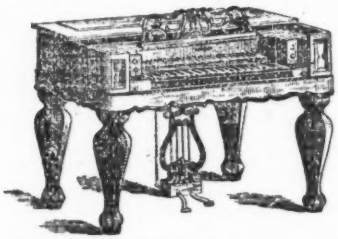
Saw Mills, Mining Machinery, Portable Grist Mills,

☞ FLOURING MILL MACHINERY,

COTTON SCREWS,

Shafting, Pulleys and Hangers. aug-1y

STEINWAY & SONS' PIANO FORTES,



MASON & HAMLIN'S CABINET ORGANS,

HAINES BROTHERS' PIANO FORTES.

CHAS. S. BENTEEN,

No. 80 W. Fayette street, and

aug-1y No 10 N. Charles st., Baltimore, Md.

FURNITURE.

S. S. STEVENS & SON,

Extensive Manufacturers and Dealers in all kinds of

FURNITURE, MATTRESSES,

School Desks, Mirrors.

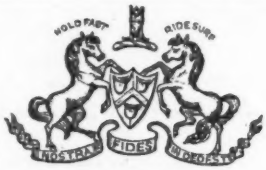
And every article kept in a first class house.

WAREHOUSES:

Nos. 131 and 133 W. Baltimore street,

and No. 3 South Calvert street,

aug-1y Baltimore, Md.



SAMUEL HUNT,

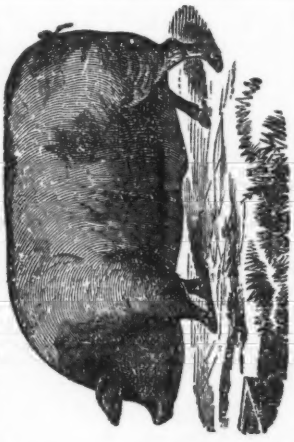
MANUFACTURER AND DEALER IN

Saddles, Harness, Trunks,

&c., &c., &c.

au-1y 202 BALTIMORE ST., BALTIMORE.

Premium Chester White Pigs For Sale.



Sent to all parts of the United States by express. For circulars, prices, &c., address N. P. BOYER & CO., Gum Tree, Chester County, Pa.

aug

5,000 lbs. New Crop American Purple and White Flat Dutch

☞ TURNIP SEED, ☜

Grown from selected stock; also,

5,000 lbs. Ruta Baga Turnip,

Of the most approved varieties, for sale by

C. B. ROGERS,

133 Market St., Philadelphia,

WHOLESALE DEALER IN

CLOVER,
TIMOTHY,
ORCHARD,
HERD, and
KENTUCKY BLUE
GRASS SEED.

IMPORTED SEED WHEAT.

Garden Seeds and Agricultural Implements.

aug

Canary, Hemp and Rape Seed.

The Southern Cultivator,

EDITED BY

D. Redmond and Wm. N. White,

Is published monthly,

AT ATHENS, GEORGIA,

By WM. N. WHITE.

TERMS.—TWO DOLLARS per year, or $1 for six months; fifty cents for three months, *in advance*. Single copies, twenty cents.

Specimen copies free.

ADVERTISEMENTS, twenty cents per line.

The "Southern Cultivator" and "American Farmer" both furnished for $3.50; ten copies of each for $30.00. Address

WM. N. WHITE,
Athens, Georgia; or
WORTHINGTON & LEWIS,
aug-tf Baltimore, Md.

NEW PATENT SOLID CAST STEEL PLOWS,

MADE ONLY BY

COLLINS & Co.,

Hartford, Conn.

These Plows are made of a superior quality of Cast Steel, recast in moulds into the exact shape required for the Mould-boards, Landsides and Shares. These are then highly tempered, ground and polished.

Every Plow is warranted to *scour* in any soil. Any section can at any time be replaced by a duplicate, or if the Share is worn, Steel can readily be welded on to the point.

(Send for a Circular.)

FOR SALE BY

RICHARD CROMWELL,
SOLE AGENT,
46 and 48 LIGHT STREET,
aug-3t Baltimore, Md.

Wanted by October,

A Full Blood, or at least *Well Bred*,

SOUTHDOWN BUCK.

State lowest cash price, delivered in Baltimore.

Address EDWIN A. LEWIS,
Farmers' and Planters' Business Agency,
American Farmer Office,
52 South Gay street,
aug-3t Baltimore.

An Englishman,

Of many years' experience in this country, and thoroughly acquainted with Grape growing, under glass or out of doors, and with Fruit and Flower culture generally, wishes to make an ENGAGEMENT with a gentleman wanting to plant largely of grapes or other fruits. He desires such engagement to be of some permanence, and to take as part of his compensation a proportion of the products of his labor. He refers to the Editor of the American Farmer. au-tf

Pianos and Other Musical Instruments.

A LADY, who is an experienced musician, and has paid especial attention to the qualities of Pianos, Melodeons, and other Musical Instruments, offers her assistance to those who may wish to purchase. She is not the agent of any manufacturing establishment, or firm for the sale of instruments, and having the whole Baltimore market to select from, can ensure the purchaser the best instrument to be had for the price he proposes to pay.

Those visiting the city, or sending their orders, may, alike, be assured of the best advice and assistance of one well acquainted with the best instruments offered for sale in Baltimore.

For further information, inquire of proprietors of "American Farmer." aug-tf

Halsted Bros. & Putnam,

PRODUCE

COMMISSION MERCHANTS,

68 PEARL STREET,

New York,

Receive and sell PRODUCE, of ALL kinds, on the most favorable terms.

We send our *Weekly Price Current*, to all consignors; also a marking plate, free of expense. Send for them.

OUR MOTTO:

jy-tf "Quick sales and prompt returns."

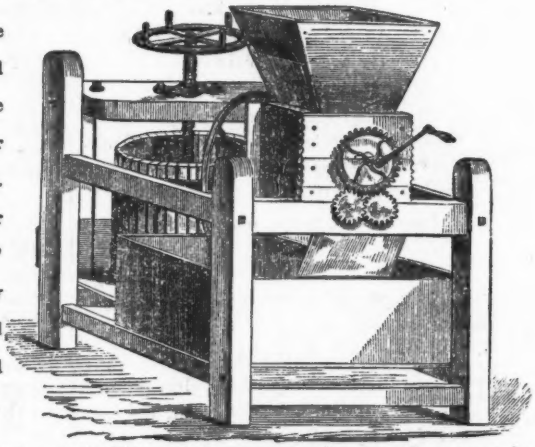
PURE CHESTER WHITE PIGS,

Either singly or in pairs, (not akin,) will be sent by express to all parts of the United States. For circulars and prices address

S. H. & J. F. DICKEY,
July-3t *Hopewell Cotton Works, Chester Co., Pa.*

Scully's Patent Portable Cider and Wine Mill and Press Combined.

We would respectfully invite the attention of farmers, merchants and others interested in the manufacture of Cider and Wine, to the superior merits of the above named machine. It possesses great advantages over the old, and even modern "Massive" Mills, so long in use, and needs only a trial to satisfy any one that it will perform all that it is recommended to do.



The above cut is a fair representation of the Mill, with the exception that we will use two tubs this season instead of one, as heretofore.

We will also make two sizes. One size for hand and a large size for both hand and power. For further particulars, send for a Circular. Manufactured and for sale by

R. SINCLAIR & CO.,
58, 60 *and* 62 *Light street, Baltimore.*

☞ The trade supplied on liberal terms. july-tf

The School of the Good Shepherd.

This is a Christian School for Young Ladies, under the care of the Sisterhood of the Good Shepherd, connected with St. Luke's Protestant Episcopal Church, Baltimore.

It aims to supply the want, so deeply felt, of a School conducted on Christian principles, where religious and secular training may go hand in hand.

The next Scholastic Year will commence on WEDNESDAY, September 12th, 1866.

The Sisters can receive ten Pupils into their house as boarders. As the number is limited, early application should be made by parents who may wish to secure places for their children.

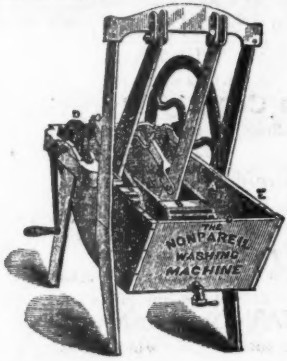
TERMS:—$300 for the Scholastic Year.

Circulars may be obtained from, and application may be made to,

SISTER CATHARINE, *Sister's House,*
No. 2 *Waverly Terrace, Franklin Square, Baltimore.*

CHAS. W. RANKIN,
RECTOR OF ST. LUKE'S CHURCH, BALTIMORE. july

THE NONPARIEL WASHING MACHINE



Combines large capacity, great strength, and entire *ease* and *simplicity* of operation.

It saves *two-thirds the time and labor*, and half the soap required in washing by hand; and FIVE YEARS' experience proves it to be the ONLY Washing Machine made which *stands the test of time and use.*

It is geared to give *six strokes* of the plungers for *one turn* of the handle—or, when working leisurely, about *four hundred strokes a minute;* thus enabling a boy or girl of fifteen years to do a week's washing for a family of six or eight persons, in from two to three hour's time; and being a *squeezing machine*, it is guaranteed not to injure the finest fabric.

Dealers supplied. Send for descriptive circular to

OAKLEY & KEATING,
184 Water street, New York.

Sold by RICHARD CROMWELL,
july-6m No. 46 and 48 Light st., Baltimore.

EXAMINE THE BRAND.

ALLEN & NEEDLES'
200 lbs.
IMPROVED
SUPER
PHOSPHATE OF LIME
MANUFACTURED
ONLY
BY THEM, AT THEIR
AGRICULTURAL WORKS,
PHILADELPHIA.

FOR SALE BY DEALERS GENERALLY

Throughout the Country.

[Entered according to Act of Congress, in the year 1866, by Allen & Needles, in the Clerk's Office of the District Court of the United States, in and for the Eastern District of Pennsylvania.]

july,aug,sep.

Hightstown (N. J.) Nurseries.

120,000 Peach Trees,

Of all the leading market varieties, of which 40,000 are HALES' EARLY—the earliest by two weeks, and hardiest of any known variety.

Also, APPLES,
PEARS, and
CHERRIES,
Both dwarf and standard.

PLUMS, APRICOTS, NECTARINES, &c.

A large stock of STRAWBERRIES, including Agriculturist, Wilson's Albany, Jucunda or 700: BLACKBERRIES, RASPBERRIES,—including the Philadelphia,—and other small fruits.

For Circulars, address

ISAAC PULLEN,
jy,au,s,o,n,&f,'67 HIGHTSTOWN, N. J.

BUSINESS AGENCY.

American Farmer Office,

EDWIN A. LEWIS,

Proprietor of Agency.

FOR THE PURCHASE OF

Guanoes, Super-Phosphates, Bone Dust and Other Fertilizers, Machinery, Farm Implements, Fruit Trees, Seeds, Cattle and Stock of all kinds.

☞ See Editorial notice, August number of the "American Farmer." ☜

Having no personal interest whatever in any FERTILIZER, MACHINE, or IMPLEMENT, I am enabled to make unbiassed selection, and will purchase from such sources only as are believed to be *entirely reliable.*

My arrangements with Manufacturers and Dealers, are such that I can furnish any article of

Fertilizers, Implements, or Trees,

Without charge of Commission to the Purchaser.

☞ *Purchases made for cash only, and orders accompanied by a remittance promptly and faithfully attended to.* Address

EDWIN A. LEWIS,
American Farmer Office,
No. 52 SOUTH GAY STREET,
aug. Baltimore.

Splendid Stock
OF
DRY GOODS

HAMILTON EASTER & CO.

Invite the attention of persons visiting Baltimore to the large and splendid STOCK OF GOODS in their

NEW MARBLE BUILDING,
Nos. 199, 201 and 203 Baltimore st.

Importing the greater portion of our stock—one of the firm visiting the various European markets twice a year for that purpose—we are prepared to offer to WHOLESALE AND RETAIL PURCHASERS goods of the best class at very low prices, including

Black and Colored Silks
AND
ROBES,
Fine Dress Goods
OF EVERY FABRIC,
Low and Medium Priced Dress Goods,
SHAWLS,
SCARFS,
MANTILLAS
AND CLOAKS,
GLOVES,
HOSIERY,
CRAVATS,
HANDKERCHIEFS, &c.

CHOICE GOODS FOR MEN'S WEAR.

Mourning Goods
Of every description.

IRISH LINENS, LINEN GOODS, and articles of every description in the way of

Housekeeping Dry Goods.

☞ALWAYS ON HAND, such Goods as are required by

Planters and Farmers,
For servants' use:

Such as bleached and Brown COTTONS, OSNABURGS, JEANS, LINSEYS, PLAIDS, Fulled CLOTHS, SATINETS, BLANKETS, &c.

☞NO DEVIATION FROM FIRST PRICE NAMED FOR ANY ARTICLE.

WHOLESALE ROOMS on second and third floors. july-tf

G. W. S. HALL,
No. 65 SECOND STREET,
BALTIMORE,
IS PREPARED TO
Insure Country Property,
In first class offices, on the most favorable terms.

Parties having Property to Insure,
are respectfully invited to communicate with him by letter, giving full and accurate description of property.

He will also, if requested, forward blank applications for

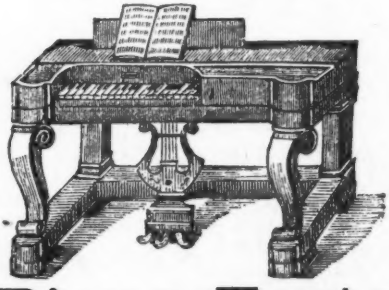
Life Insurance,
In a first class company, for which he is a General Agent.

☞Refers to the Editors of "The American Farmer," and others, if necessary. july-tf

WILLIAM WILKENS. H. H. GRAUE.

WILLIAM WILKENS & CO.,
STEAM
Curled Hair and Bristle Manufacturers.
DEALERS IN
HAIR-CLOTH, DAMASK, PLUSH AND UPHOLSTERERS AND CABINET AND COACHMAKER'S MATERIALS IN GENERAL.
Corner of Pratt and Charles sts., Baltimore, and 217 Pearl st., New York.
The highest price paid for HOG HAIR, HORSE and CATTLE TAILS. july-tf

OTTO WILKENS'



Piano Forte
Manufactory,
No. 487 *Baltimore st.*,
BALTIMORE.

First premium, Gold Medal, awarded at Maryland Institute Fair, for Pianos. july-tf

THE GREAT BONE FERTILIZER FOR SOUTHERN LANDS.

BAUGH'S RAWBONE PHOSPHATE

Containing { 53 per cent. PHOSPHATE OF LIME. / 4.05 per cent. AMMONIA.

It should be borne in mind that the *Phosphate of Lime in this article, being obtained exclusively from Raw Bones and a true Bird Guano, there is no portion of it inoperative*, as in the case of Super-Phosphates *made from Mineral Guanos*, but, *being entirely soluble in the soil, continues to impart its fertilizing qualities to the crops for years.*

It is *guaranteed* to be *more beneficial* to the soil than *Peruvian Guano*, for while it has *sufficient Ammonia* to push forward the crop, it *has no excess of it*, as *Peruvian Guano has*, and therefore does not over-stimulate the land, but *continues to impart its fertilizing qualities for years.*

The *remarkable success* which has attended its use in Maryland, and parts of Virginia, *is a sufficient guarantee to induce those who have not tried it, to do so.*

My price in Baltimore is uniform with the manufacturer's prices—and it can be obtained at the same price, adding costs of transportation from Baltimore, from dealers throughout the Southern States.

GEORGE DUGDALE, Manufacturer's Agent,
105 *Smith's wharf, Baltimore, Md.*

july-6m

Rodunda Island Guano.

A VERY VALUABLE AND RECENTLY DISCOVERED GUANO DEPOSIT ON THE ISLAND OF RODUNDA, IN THE CARRIBEAN SEA.

THIS GUANO

Has been used for many years by planters on the adjacent islands of ANTIGUA, BARBADOES, and others, for the cultivation of Sugar Cane and Cereals, and has been found equal to Peruvian Guano in its effects.

It contains a very large per centage of

Phosphoric Acid, Ammonia and Salts.

It is of a dark brown texture, and as

FINE AS FLOUR,

without any traces of stone, roots, or foreign matter; is a pure and original GUANO, easy to be used, and wonderful in its effects.

The very low price at which this Guano can be sold, places it within the reach of every farmer and planter, and avoids the risk of large loss, frequently incurred in the purchase of "high priced" fertilizers. For sale by

WM. CRICHTON & SON,
Sole Agents for the United States,
BALTIMORE

july-tf

Guano and Fertilizers.

The undersigned, having resumed the manufacture and sale of FERTILIZERS—conducted with JOHN KETTLEWELL, Esq., (now deceased,) for several years previous to the war—purposes devoting his exclusive time, and what means he can command, to its faithful prosecution.

It shall be my aim to offer no article but of character, and what it is represented to be. Having fitted up an establishment at *Locust Point, Baltimore*, complete in all its parts—employing competent counsel and assistants—with nothing to conceal to the agriculturist—I confidently appeal to the agricultural public. It will always give me pleasure to exhibit my works and plan of operation to the Farmer, and prepare to especial order any compound required. Referring, for integrity of character, to D. Sprigg, Esq., Cashier of the Merchants' National Bank; R. Mickle, Esq., Cashier of the Union National Bank; Chauncey Brooks, Esq., President of the Western National Bank; Editors of "The American Farmer," and mercantile class generally. I am, respectfully,

G. OBER, *No.* 68 *South street, Baltimore.*

It is known to all that *soils* are rapidly exhausted by heavy cropping. They are renovated by manures. The principle of renovation is very simple—a mere return of elements taken from the soil by the crop if we would retain its fertility, and add still more if we would increase its productiveness. The various cultivated plants remove *Soda, Potash*, Lime, Sulphuric and Phosphoric Acid, Chlorine and Magnesia. Peruvian Guano is not properly proportioned—containing ammonia far in excess of need, and not sufficient of the salts. A manure must supply all the ingredients in their proper proportions to form a general manure. It will not do to depend upon ammonia and phosphates alone, *important as they are*, but *Alkalis*, the *Chlorine*, and *Sulphuric Acid*, must be *provided*. The preparations now offered have been compounded to meet the general want, and have been pronounced correct by competent scientific authority, and the closest investigation is challenged, knowing that in them these principles have been honestly carried out in practice. The alkaline salts have been generally omitted in the fertilizers now offered for sale.

AMMONIATED ALKALINE PHOSPHATE.

Very rich in all elements for *crop and soil*, as per analysis annexed, and cannot be too strongly recommended for *Wheat, Tobacco, Cotton, Corn, &c.* $55 per ton, 2,000 weight.

Report of Analysis of G. OBER'S *Ammoniated Alkaline Phosphate.*

Organic matter and combined water..... (Containing *Ammonia*, 2 78.)	26.20	Phosphoric Acid..... (Equivalent to *Bone Phosphate of Lime*, 26.46.)	12.21
Lime.....	28.32	Sulphuric Acid.....	16.81
Soda.....	4.88	Magnesia, Iron, &c., not estimated.....	3.04
Potash.....	1.88		
Chlorine.....	6.66		100.00

It will be seen from the above statement of the constitution of this article, that it is an excellent general manure for the plants for which it is recommended, containing as it does the inorganic ingredients required by these crops, and enough ammonia to give a good start to them at the beginning. It is compounded upon correct principles, and has evidently been carefully made. I have no doubt that it will prove a valuable addition to the stock of fertilizers.

A. SNOWDEN PIGGOT, M. D., *Analytical and Consulting Chemist.*

ALKALINE PHOSPHATE.

A very soluble phosphatic and alkaline compound, within a fraction of 140 pounds Potash to every ton. *Who can doubt its value*—for all crops—absorbing moisture and receiving ammonia from the *atmosphere?* For *Grass it has no equal;* and every farmer growing wheat with grass, and using any other preparation, should use this *compound*, if for that *alone.* $45 per ton, 2,000 weight.

Report of Analysis of Alkaline Phosphate.

Water and organic matter (containing a trace of Ammonia).....	12.70	Phosphoric Acid..... Equal to Bone Phosphate of Lime, 12.98	5.99
Soluble Silica.....	0.79	Sulphuric Acid.....	10.60
Insoluble Silica and Silicates.....	18.85	Magnesia, Oxide of Iron, &c., not estimated.....	7.04
Lime.....	18.74		
Alkaline Salts.....	25.20		100.00

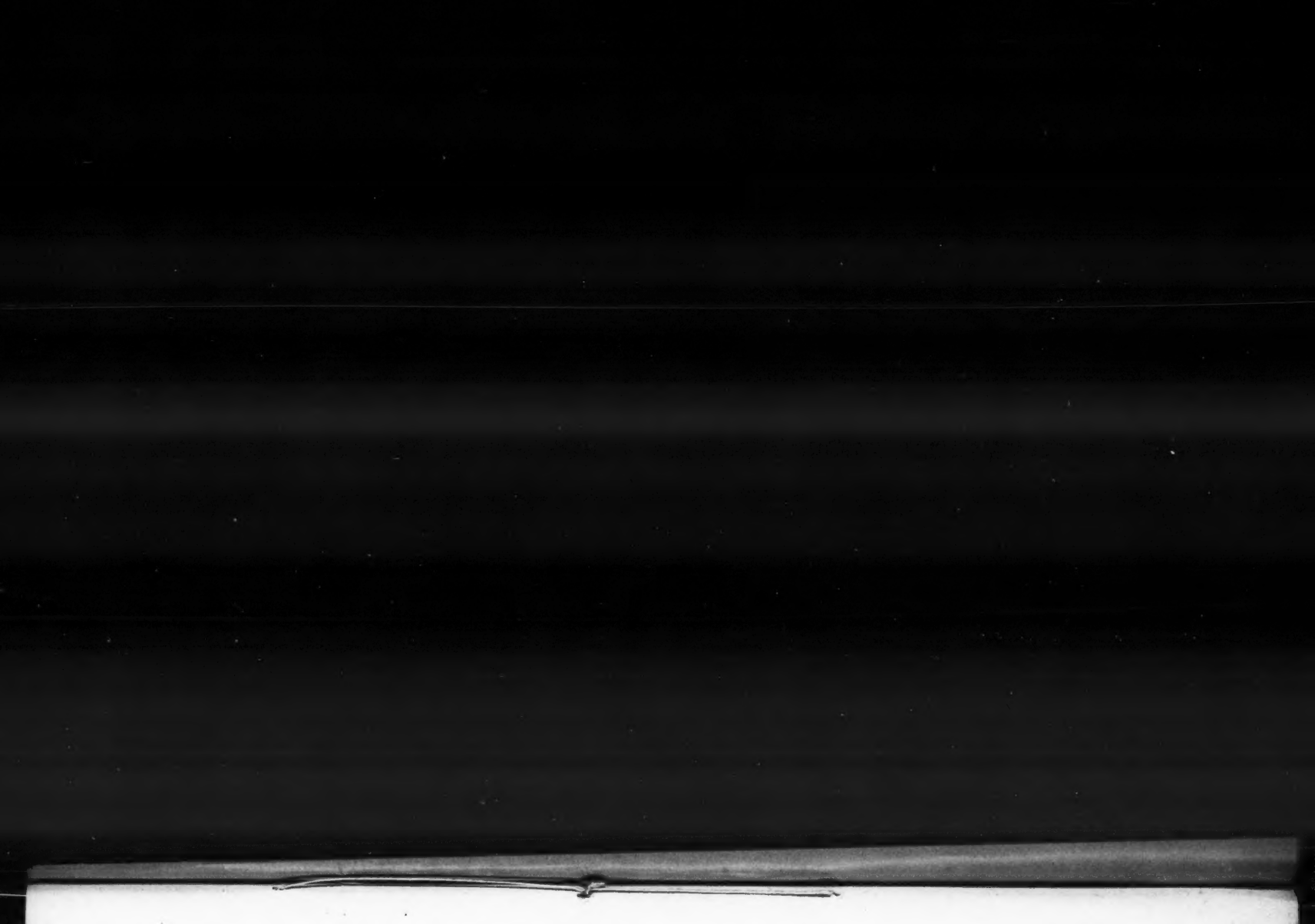
Containing Potash, 6.88; Soda, 4.15; Chlorine, 5.53.

It is very evident that the above will prove an excellent fertilizer for all soils or crops requiring Alkalies.—Wherever ashes are beneficial, this manure will prove much more efficacious, by reason of its far greater richness in Potash and Soda. The presence of a notable quantity of Phosphates gives an additional value to it, which confers upon it a more general character. I have no doubt that it will prove highly beneficial, especially to Corn, Tobacco, and Cotton, and as a top-dressing for Grain and Grass.

A. SNOWDEN PIGGOT, M. D.,
Analytical and Consulting Chemist.

59 S. Gay st., Baltimore, February 24th, 1866.

My faith in the foregoing preparations is so strong, that I give any farmer *doubting*, an opportunity to have them analyzed by Prof. Piggot, at my expense. The *spring application* promises very handsomely thus far.



KETTLEWELL'S

Manipulated Guanos;

OR

PHOSPHO-PERUVIAN.

No. 1 Peruvian and Phosphatic Guanos,

WITH OTHER IMPORTANT ELEMENTS, REDUCED TO IMPALPABLE POWDER AND INTEGRATED BY COSTLY MACHINERY.

This great WHEAT AND COTTON FERTILIZER is again offered to the public. Thousands of tons were sold before the war, with great effect, as attested by certificates of experienced planters and farmers, published in "The American Farmer." It again challenges Peruvian Guano, pound for pound for crop, and claims vast superiority as an improver of land and quality of product—the ammonia and phosphates being in rational proportions. It was sold as Nos. 1 and 2, merely to designate the quantity of ammonia and phosphates—many preferring the No. 2, containing more Phosphate of Lime and a sufficiency of Ammonia. Both grades can now be had. I do not hesitate to say that the preparation is superior in every respect to that formerly sold. The Phosphatic Guano is richer and compound better made. It is put up in good strong sacks, and will be governed in price by Peruvian Guano, but will always range from 25 per cent. or more, less than that article.

Potash and Plaster Combined—in Barrels.

Those understanding the value of POTASH, as a Fertilizer, can appreciate the value of this article. It was sold very largely before the war. For Tobacco, Corn, and as a top-dressing for Grain and Grass, it has no superior.

Land Plaster—in Barrels—Ground or in Lump.

A full supply of this article, of the best quality, will always be kept on hand and furnished to farmers or dealers at the lowest rate.

Fish Guano.

This valuable GUANO—containing 8 to 10 per cent. ammonia, with a good supply of phosphates and some of the alkaline salts, and now esteemed as only second to Peruvian Guano—will be kept in large supply, and sold ground or unground. Having every facility to prepare this Guano, it will be sold at the lowest market rate.

Bone Dust—Fine.

300 BARRELS GROUND VIRGINIA BONE DUST on hand—warranted pure.

Peruvian and Phosphatic Guano,

And all the STANDARD FERTILIZERS, will be supplied at lowest market rates.

G. OBER, 68 South Street,

july-tf *And for sale by Dealers generally.*

THE BALTIMORE CITY

☞Fertilizing Manufacturing Company

Have entered into contract with the city of Baltimore for the

REMOVAL OF ALL

NIGHT SOIL, DEAD STOCK & REFUSE MATTER,

And will be prepared in a short time to furnish Farmers and Gardeners with

Superior Fertilizers,

At LOW PRICES; also,

GROUND BONES,

IN QUANTITIES TO SUIT.

Further particulars will be given in a future advertisement.

JOS. J. STEWART, President.

Wm. H. KIMBERLY, Treasurer. july-tf

Cromwell's Patapsco Nurseries,

ONE MILE SOUTH OF BALTIMORE,

Office, 46 and 48 LIGHT STREET,

Offers for this coming Fall and Spring planting, *at the very lowest prices*, (send for a *Priced Catalogue*,)

15,000 Dwarf and Standard Pear Trees,

15,000 PEACH AND OTHER FRUIT TREES,

20,000 Grape Vines,

All kinds, *thirty varieties in bearing*, including all the new kinds.

☞ORNAMENTAL AND EVERGREEN TREES,

SMALL FRUIT, &c., &c.

☞Come and see for yourselves. Address,

aug-tf R. CROMWELL, 46 *Light street, Baltimore.*